

**OSAGE BEACH / LAKE OZARK
JOINT SEWER BOARD MEETING
AGENDA
January 18th, 2022 @ 4:00 p.m.
LAKE OZARK CITY HALL**

1. CALL TO ORDER

2. ROLL CALL

Mayor, Osage Beach, John Olivarri
Mayor, Lake Ozark, Dennis Newberry
City Administrator, Osage Beach, Jeana Woods
City Administrator, Lake Ozark, David Mitchem
Alderman, Osage Beach, Kevin Rucker
Alderman, Lake Ozark, Pat Thompson
Public Works Director, Lake Ozark, Matt Michalik
Public Works Operations Manager, Osage Beach, Kevin Crooks
Member at Large, Mr. Gary Hamner

3. MINUTES

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Regular Meeting: November 16th, 2021 3-4

4. REPORTS

Bill List	
December	5-12
January	13-26
Revenue Budget Analysis (November)	27
Expenditure Budget Analysis (November)	29
Income & Expense Summary (November)	31
 November 2021 Alliance Report of Operations	 33-51
December 2021 Alliance Report of Operations	53-71

Approval of Flow Charts November and December 2021

5. OLD BUSINESS

A. Board Representative Update

6. NEW BUSINESS

A. Review and discussion regarding the Alliance O & M Agreement	73-75
B. Review and discussion regarding the ERP, EOP, EAP and FPP	77-110
C. Review and discussion regarding the updated Inventory List	111-117

D. Review and discussion regarding the Sewer Plant Flow charts

119-121

7. ADDITIONAL DISCUSSION ITEMS

8. ADJOURNMENT

THE NEXT MEETING WILL BE FEBRUARY 15, 2022 4:00 PM @ LAKE OZARK CITY HALL

**LAKE OZARK-OSAGE BEACH
JOINT SEWER BOARD**
Meeting Minutes – November 16, 2021

CALL TO ORDER:

Mayor John Olivarri called the meeting to order at 4:00 pm on Tuesday, November 16, 2021, at Lake Ozark City Hall.

ROLL CALL:

Mayor, Osage Beach, John Olivarri- Present
Mayor, Lake Ozark, Dennis Newberry - Present
City Administrator Osage Beach, Jeana Woods – Present
City Administrator Lake Ozark, David Mitchem – Present
Alderman Osage Beach, Kevin Rucker – Present
Alderman, Lake Ozark, Pat Thompson - Present
Public Works Director Lake Ozark, Matt Michalik – Absent
Public Works Operations Manager Kevin Crooks – Present
Member at Large, Mr. Gary Hamner – Present

MINUTES:

Alderman Thompson motioned to approve the meeting minutes of October 19, 2021. Her motion was seconded by Alderman Osage Beach, Kevin Rucker and passed unanimously.

REPORTS:

The November Bill list, Revenue Budget, Expenditure Budget Analysis, and Income & Expense Summary were reviewed. A Motion was made by City Administrator Osage Beach, Jeana Woods to approve the documents and pay the bills. Her motion was seconded by Public Works Director Lake Ozark, Matt Michalik and was passed unanimously.

Alliance Report of Operations: The average daily incoming flow for October was 1.255 mgd. We had 6.0 inches in October of precipitation measured at the WWTP.

Operationally, the plant's discharge was excellent, with an effluent monthly average BOD and TSS of 1.7 mg/l and 2.5 mg/l respectively for October which represents a 99.0 + % or better removal.

The MLSS average for both aeration basins was 4,996 mg/l in October. The total dry weight sludge inventory for October totaled 255,554 pounds. There were 17 tanker loads of biosolids or 61,200 gallons land applied in October. We received 34 loads of septage or 80,000 gallons for October.

APPROVAL OF FLOW CHART

Motion was made by Member at Large, Gary Hamner to approve the Flow Chart for October. His motion was seconded by Alderman Pat Thompson. Unanimous approval, motion passed.

OLD BUSINESS:

- A. 2022 Proposed Budget. Motion was made to approve by Mayor Lake Ozark, Dennis Newberry and was seconded by City Administrator, Osage Beach, Jeana Woods. Motion to approve 2022 Budget passed unanimously.

NEW BUSINESS:

- A. Discussion to put proceeds from the sale of the sludge truck, when received, into the equipment replacement fund. Motion to approve made by Member at Large, Mr. Gary Hamner. His motion was seconded by Public Works Director, Lake Ozark Matt Michalik and was passed unanimously.

ADDITIONAL DISCUSSION ITEMS:

Purcell Tire offered to sell us three additional tires for the sludge truck for \$1000 each delivered. This is approximately half the cost of what is normally paid, if we would make a verbal commitment to purchase them January 2022.

ADJOURNMENT:

With no further business to discuss, the meeting adjourned at 4:23 p.m.

Mayor, John Olivarri

Clerk, Robin Craig

JOINT SEWER BOARD
BILL LIST
JANUARY 18, 2022

OPERATING FUND BILLS PAID PRIOR TO BOARD MEETING:	\$	72,093.46
OPERATING FUND BILLS TO BE PAID:	\$	48,061.52
EQUIPMENT REPLACEMENT FUND BILLS PAID PRIOR TO BOARD MEETING:	\$	-
EQUIPMENT REPLACEMENT FUND BILLS TO BE PAID:	\$	-
TOTAL	\$	120,154.98

OPERATING FUND BILLS PAID PRIOR TO BOARD MEETING:

Account	Check	Paid To:	Description:	Amount:
4020	503	Grainger	Timer	\$ 77.39
4020	504	UV Doctor Lamps	UV Bulbs & Sleeves	\$ 6,517.88
4000	505	Equipment Replacement Fund	Trk Sale into ER Fund	\$ 22,000.00
4000	506	Equipment Replacement Fund	Payment into ER Fund	\$ 10,134.00
4020	507	Catalyst Electric	Flow Meter Calibration & Install	\$ 1,300.00
4020	508	CED	Relays for UV System	\$ 230.00
4020	508	CED	Breaker & Fuses for Bar Screen	\$ 120.00
4020	509	Grainger	Relays for Bar Screens	\$ 52.34
4020	510	Jani King	December	\$ 197.15
4020	511	JCI Industries	1 RAS Pump Rebuild	\$ 2,300.00
4020	512	M/C QuickBooks	Accounting Software	\$ 25.00
4240	512	M/C Northern Tool &	New Stick Welder	\$ 399.99
4020	513	Menards	Tools & Cleaners for RAS	\$ 40.44
4020	514	USA Bluebook	Dip Net Pole	\$ 136.18
4170	515	Alliance Water Resources, Inc.	December	\$ 25,720.00
4175	516	Ameren MO	11673321	\$ 3,600.87
4175	516	Ameren MO	Credit	\$ (1,333.20)
4175	516	Ameren MO	98041275	\$ 80.73
4176	517	AT&T	December	\$ 103.97
4176	518	Republic	January	\$ 54.72
4020	519	Haynes Equipment	Battery for Auto Samplers	\$ 336.00
TOTAL				\$ 72,093.46

OPERATING FUND BILLS TO BE PAID:

Account	Check	Paid To:	Description:	Amount:
4000		Equipment Replacement Fund	Payment into ER Fund	\$ 10,134.00
4020		Catalyst Electric	Heater/BarScreen In RAS Room	\$ 318.75
4020		CED	Parts for Clarifier 1&2 Skimmer Arm	\$ 414.00
4020		CED	Breaker & Fuses for Bar Screen	\$ 260.00
4020		CED	Relays for Bar Screens	\$ 434.37
4020		Controlled Heating & Cooling	Annual HVAC Svc Agreement	\$ 208.15
4020		Jani King	January	\$ 197.15
4020		JCI Industries	2 RAS Pump Rebuild	\$ 2,300.00
4020		JCI Industries	3 RAS Pump Rebuild	\$ 2,300.00
4020		M/C QuickBooks	Accounting Software	\$ 25.00
4170		Alliance Water Resources, Inc.	January	\$ 27,590.00
4175		Ameren MO	11673321	\$ 3,599.47
4175		Ameren MO	98041275	\$ 176.66
4176		AT&T	January	\$ 103.97
TOTAL				\$ 48,061.52

EQUIPMENT REPLACEMENT FUND BILLS PAID PRIOR TO BOARD MEETING:

Account	Check	Paid To:	Description:	Amount:
4000				\$ -
TOTAL				\$ -

EQUIPMENT REPLACEMENT FUND BILLS TO BE PAID:

Account	Check	Paid To:	Description:	Amount:
4000				\$ -
TOTAL				\$ -

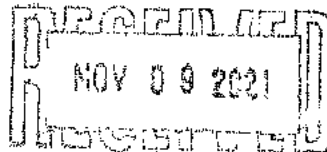
UV Doctor Lamps, LLC
209 S. Washington Avenue
Newport, WA 99156

UV DOCTOR INVOICE

Invoice #	14898
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Bill To:
JOINT SEWER BOARD
ALLIANCE WATER RESOURCES, INC
ATTN: ACCOUNTS PAYABLE
PO BOX 1985
LAKE OZARK, MO 65049

Ship To:
ALLIANCE WATER RESOURCES, INC
LAKE OF THE OZARKS REG
WWTP - GARY HUTCHCRAFT
#3 ANDERSON ROAD
LAKE OZARK, MO 65049



Date	P.O. No.	Ship Via	FOB		Terms	Due Date
10/26/2021	Gary	FREIGHTQUO...	Newport WA		NET 30	11/25/2021
Item	Description	Ordered	Shipped	Unit Price	Amount	
1601-HP	REPLACEMENT FOR WEDECO ELR 30 LAMP	30	30	115.00	3,450.00	
1621	QUARTZ SLEEVE W/ END CAPS WEDECO	20	20	135.00	2,700.00	
FREIGHT	TAK 55 SHIPPING AND HANDLING - YRC			367.88	367.88	

REPLACEMENT
UV BULBS + SLEEVES

GL Acct#: 4020

Signature: Gary Hutchcraft

Date: 11/9/21

ALL PAST DUE INVOICES ARE SUBJECT TO A FINANCE CHARGE OF 1.5%, PER MONTH, AND ANY ADDITIONAL EXPENSES AND ATTORNEY FEES ASSOCIATED WITH THE COLLECTION OF THIS INVOICE.

REMIT TO:
UV DOCTOR LAMPS, LLC
209 S. WASHINGTON AVE.
NEWPORT, WA 99156

Tel # (509)447-5800
Fax # (509)447-5822

Sales Tax (0.0%) \$0.00

Total \$6,517.88

Payments/Credits \$0.00

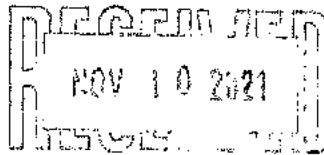
Balance Due USD \$6,517.88

Catalyst Electric

31 Rock House Rd
Linn Creek, MO 65052
573-552-8488
office@catalystelectric.com
www.catalystelectric.com

**CATALYST
ELECTRIC****INVOICE**

BILL TO
Joint Sewer Board
Joint Sewer Board
#3 Anderson Road
Lake Ozark, MO



INVOICE #	DATE	TERMS	DUE DATE
14842	11/10/2021	Net 30	12/10/2021

QTY	DESCRIPTION	RATE	AMOUNT
13.50 Elec	Electricians: Johnny and Mike Date: 11/05/2021 -Called out to verify calibration of the Lake Ozark, Osage Beach and Effluent flow meters. -Installed GFCI by Osage Beach flume. -Installed new junction box for the sensor wiring for Osage Beach and Lake Ozark flow meters. -Installed new breaker and fuse for bar screen and troubleshot bar screen control panel. -Troubleshoot data wiring from RAS flow meters to main office.	65.00	877.50
6.50 Elec	Electricians: Johnny and Mike Date: 11/08/2021 -Troubleshoot Lake Ozark flow meter. Tech support said it needs to be replaced/repared. -Troubleshoot Effluent flow meter. Tech support said needs to be replaced/repared.	65.00	422.50

Thank you for your business!

BALANCE DUE

\$1,300.00*FLOW METER CALIBRATION & INSTALLATION OF RECEPTICAL + JUNCTION BOX*GL Acct#: 4020Signature: *Ray Hutcheson*Date: 11/10/21

Remit To:

JCI Industries, Inc.
PO Box 411114
Kansas City, MO 64141
816-525-3320



INVOICE

INVOICE	
8224361	
Invoice Date	Page
12/07/2021	1 of 1
ORDER NUMBER	
1201027	

Branch 06

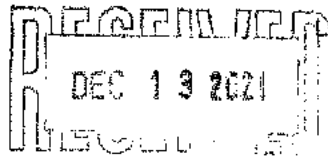
JEFFERSON CITY

Bill To:

LAKE OZARK/OSAGE BEACH JOINT SEWER BOARD
PO BOX 1985
LAKE OZARK, MO 65049

Ship To:

ALLIANCE WATER RESOURCES
#3 ANDERSON ROAD
LAKE OZARK, MO 65049



Customer ID: 400263

PO Number					Term Description			Net Due Date		
GARY HUTCHCRAFT-13					Net 30			1/6/2022		
Order Date		Pick Ticket No		Primary Salesrep Name					Order Taker	
11/5/2021 09:39:48		3215175		Ben Reinkemeyer JJ					HHASKELL	
Quantities					Item ID		Pricing			
Ordered	Shipped	Remaining	UOM	Dis.	Item Description		UOM	Unit Price	Extended Price	
			Unit Size				Unit Size			
1.00	1.00	0.00	EA		P FAIRBANKS RAS 11-05-21		EA	2,300.00	2,300.00	
			1.0		FAIRBANKS MORSE RAS PUMP		1.0000			

Total Lines: 1

1- RAS Pump REBUILD

GL Acct#: 4020

SUB-TOTAL: 2,300.00

TAX: 0.00

Signature: Gary Hutchcraft

AMOUNT DUE: 2,300.00

Date: 12/13/21

Carrier: JCI TO DELIVER

Tracking #:

Merchandise cannot be returned without permission. Claims for shortages or errors must be made in writing within thirty (30) days after receipt of goods. All approved returns must include a JCI return authorization number and may be subject to a restocking fee up to 25%.



- Pay by phone: 1.866.268.3729
- Pay by mail: PO Box 88068, Chicago, IL 60680-1068
- Pay online or manage your account: AmerenMissouri.com
- Customer Service: 1.877.426.3736

FOCUSED ENERGY. For life.

Account Number 4580005832
Customer Name ALLIANCE WATER RESOURCES INC
Service Address 3 ANDERSON RD.,
LAKE OZARK, MO 65049

AMOUNT DUE \$2,267.67

Due Date 01/03/2022

Amount After Due Date \$2,301.89

Previous Statement \$0.00

Current Detail for Statement 12/08/2021

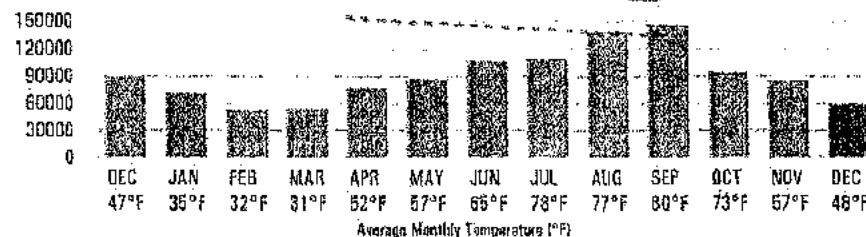
Total Electric Charges \$3,600.87

Additional Charges (see details pages) \$1,333.20

Total Amount Due \$2,267.67

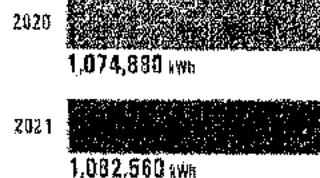
Electric Usage History

Electric Usage in Kilowatt Hours (kWh)



Electric Usage Summary (kWh)

Your electric energy usage this year was about the same as last year.



Usage from Jan-Dec for 2020 & 2021

Electric Service Details

Service from 11/03/2021 - 12/08/2021 (33 days)

Electric Meter Read

METER NUMBER	SERVICE FROM - TO	NO. DAYS	USAGE TYPE	READING TYPE	CURRENT READING	PREVIOUS READING	READING DIFFERENCE	MULTIPLIER	USAGE
11673321	11/03 - 12/06	33	Total kWh	Actual	70474.0000	70101.0000	373.0000	160.0000	59680.0000
11673321	11/03 - 12/06	33	Peak kW	Actual	0.8400	0.0000	0.8400	160.0000	102.2000

See next page for service details.

Keep this portion for your records.

GL Acct#: 4175

Signature: [Signature]

Date: 12/8/21

Please return this portion with your payment.



Check if you have address changes on back.

Amount Due	Due Date
\$2,267.67	January 03, 2022
Delinquent Amount After Due Date	Account Number
\$2,301.89	4580005832

Amount Enclosed \$

>003506 2011734 0005 092139 102

ALLIANCE WATER RESOURCES INC
PO BOX 1985
LAKE OZARK, MO 65049-1985

AMEREN MISSOURI
PO BOX 88068
CHICAGO IL 60680-1068

60600000 0045800058302 000002267670 000002267670

19073
03506 2011734 0005837 013773 00070002



- Pay by phone: 1.866.268.3729
- Pay by mail: PO Box 88068, Chicago, IL 60680-1068
- Pay online or manage your account: AmerenMissouri.com
- Customer Service: 1.877.426.3736

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Electric Service Details (Continued)

Usage Summary

Total kWh	59680.0000	Non-Summer kWh	59680.0000
Peak kW	102.4000	Billing Demand	102.4000
Total Billing Demand	102.4000	October Winter Base kW	182.4000
Winter Base Demand	102.4000	Base kWh Ratio	1.0000
Base kWh (HUD)	59680.0000	Seasonal kWh (HUD)	0.0000

Rate 3M Large General Service

DESCRIPTION	USAGE	UNIT		RATE	CHARGE
Seasonal Energy Charge	0.00	kWh	@	\$ 0.03560000	\$0.00
Summer Demand Charge	102.40	kW	@	\$ 0.00000000	\$0.00
Winter Demand Charge	102.40	kW	@	\$ 2.00000000	\$204.80
Energy Charge/Hours Used	0.00	kWh	@	\$ 0.09690000	\$0.00
Base Energy Charge / Hours Used	15,360.00	kWh	@	\$ 0.06090000	\$935.42
Base Energy Charge / Hours Used	20,480.00	kWh	@	\$ 0.04620000	\$925.70
Base Energy Charge / Hours Used	23,840.00	kWh	@	\$ 0.03560000	\$848.70
Customer Charge					\$95.29
Fuel Adjustment Charge	59,680.00	kWh	@	\$ 0.00414000	\$247.08
Energy Efficiency Investment Charge	59,680.00	kWh	@	\$ 0.00559200	\$333.73
Renewable Energy Adjustment	59,680.00	kWh	@	\$ 0.00017000	\$10.15
Total Service Amount					\$3,600.87
Total Electric Charges					\$3,600.87

Additional Charges

DESCRIPTION	CHARGE
Credit	\$-1,333.20
Total Additional Charges	\$-1,333.20

Questions? Contact Ameren Missouri at 1.877.426.3736 or visit AmerenMissouri.com.

Page 2 of 4

Address Changes or Corrections

Name _____
 Address _____
 City, State, Zip _____
 Phone Number _____

AmerenMissouri.com/WaysToPay



ONLINE
E-CHECK



PHONE
866.268.3729



IN PERSON
FIND A PAY STATION AT
AMERENMISSOURI.COM/
PAYSTATION



ONLINE
CREDIT CARD



MAIL
STUB & CHECK



- Pay by phone: 1.866.268.3729
- Pay by mail: PO Box 88068, Chicago, IL 60680-1068
- Pay online or manage your account: AmerenMissouri.com
- Customer Service: 1.877.426.3736

FOCUSED ENERGY. For life.

Account Number 5580005920
Customer Name ALLIANCE WATER RESOURCES INC
Service Address 3 ANDERSON RD
LAKE OZARK, MO 65049

AMOUNT DUE \$80.73

Due Date 01/03/2022

Amount After Due Date \$81.94

Previous Statement \$112.42

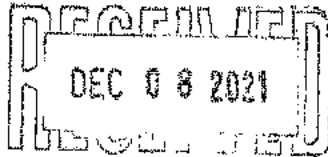
Total Payments \$112.42

Payment Received. Thank You.

Current Detail for Statement 12/08/2021

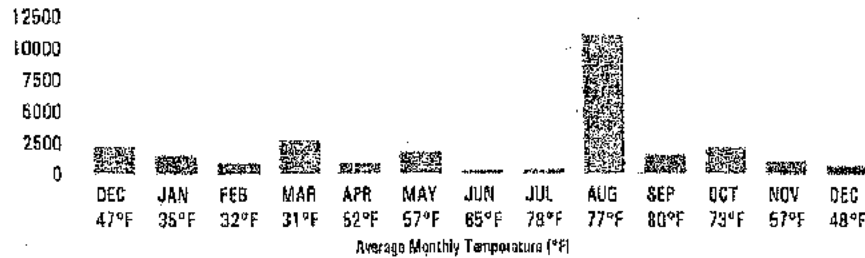
Total Electric Charges \$80.73

Total Amount Due \$80.73



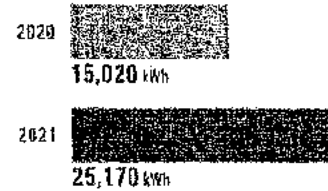
Electric Usage History

Electric Usage in Kilowatt Hours (kWh)



Electric Usage Summary (kWh)

So far this year, you're using 67.6% more than last year.



Usage from Jan-Dec for 2020 & 2021

Keeping You Informed.

Update your account information so we can contact you when crews are working in your neighborhood. Fill out the slip and mail it in or update your online account. Don't have an online account? Sign up today at AmerenMissouri.com.

GL Acct#: 4195
Signature: [Handwritten Signature]
Date: 12/8/21

» See next page for service details.

Keep this portion for your records.

Page 1 of 4



☐ Check if you have address changes on back.

Please return this portion with your payment.

Amount Due	Due Date
\$80.73	January 03, 2022
Delinquent Amount After Due Date	Account Number
\$81.94	5580005920

Amount Enclosed \$

>003403 2011734 0005 092139 102

ALLIANCE WATER RESOURCES INC
PO BOX 1985
LAKE OZARK, MO 65049-1985

AMEREN MISSOURI
PO BOX 88068
CHICAGO IL 60680-1068



- Pay by phone: 1.866.268.3729
- Pay by mail: PO Box 88068, Chicago, IL 60680-1068
- Pay online or manage your account: AmerenMissouri.com
- Customer Service: 1.877.426.3736

FOCUSED ENERGY. For life.

Electric Service Details Service from 11/03/2021 - 12/06/2021 (33 days)

Electric Meter Read

METER NUMBER	SERVICE FROM - TO	NO. DAYS	USAGE TYPE	READING TYPE	CURRENT READING	PREVIOUS READING	READING DIFFERENCE	MULTIPLIER	USAGE
98041275	11/03 - 12/06	33	Total kWh	Actual	23620.0000	23551.0000	69.0000	10.0000	690.0000
98041275	11/03 - 12/06	33	Peak kW	Actual	3.6970	0.0000	3.6970	10.0000	36.9700

Usage Summary

Total kWh	690.0000	Non-Summer kWh	690.0000
Winter Base kWh	1830.0000	Current Base kWh	690.0000
Winter Cur Base kWh	690.0000	Seasonal kWh	0.0000

Rate 2M Sm Gen Svc - 3 Ph w/Dmd

Threshold - Peak Demand

DESCRIPTION	USAGE	UNIT	RATE	CHARGE
Base Energy Charge	690.00	kWh	@ \$ 0.07790000	\$53.75
Seasonal Energy Charge	0.00	kWh	@ \$ 0.04490000	\$0.00
Customer Charge				\$19.99
Fuel Adjustment Charge	690.00	kWh	@ \$ 0.00414000	\$2.86
Energy Efficiency Investment Charge	690.00	kWh	@ \$ 0.00581100	\$4.01
Renewable Energy Adjustment	690.00	kWh	@ \$ 0.00017000	\$0.12
Total Service Amount				\$80.73
Total Electric Charges				\$80.73

Payments Since Previous Statement

DATE RECEIVED	AMOUNT
November 22, 2021	\$112.42

Questions? Contact Ameren Missouri at 1.877.426.3736 or visit AmerenMissouri.com.

Page 2 of 4

Address Changes or Corrections

Name _____
Address _____
City, State, Zip _____
Phone Number _____

AmerenMissouri.com/WaysToPay



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E-CHECK



PHONE
866.268.3729



IN PERSON
FIND A PAY STATION AT
AMERENMISSOURI.COM/
PAYSTATION



ONLINE
CREDIT CARD



MAIL
STUB & CHECK

Remit To:

JCI Industries, Inc.
PO Box 411114
Kansas City, MO 64141
816-525-3320



INVOICE

INVOICE	
8225000	
Invoice Date	Page
12/20/2021	1 of 1
ORDER NUMBER	
1201028	

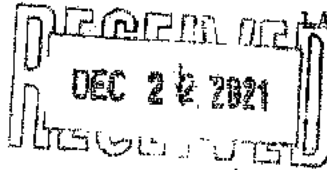
Branch 06 JEFFERSON CITY

Bill To:

LAKE OZARK/OSAGE BEACH JOINT SEWER BC
PO BOX 1985
LAKE OZARK, MO 65049

Ship To:

ALLIANCE WATER RESOURCES
#3 ANDERSON ROAD
LAKE OZARK, MO 65049



Customer ID: 400263

PO Number				Term Description		Net Due Date		
GARY HUTCHCRAFT-12				Net 30		1/19/2022		
Order Date		Pick Ticket No		Primary Salesrep Name		Order Taker		
11/5/2021 09:42:50		3215793		Ben Reinkemeyer II		HASKELL		
Quantities					Item ID	Pricing UOM	Unit Price	Extended Price
Ordered	Shipped	Remaining	UOM Unit Size	Item Description	Unit Size			
1.00	1.00	0.00	EA	P FAIRBANKS RAS 11-5-2021-1	EA		2,300.00	2,300.00
			1.0	FAIRBANKS RAS PUMP	1.0000			

Total Lines: 1 2ND RAS PUMP REBUILD

GL Acct#: 4020

SUB-TOTAL: 2,300.00

TAX: 0.00

Signature: Gary Hutchcraft

AMOUNT DUE: 2,300.00

Date: 12/22/21

Carrier: JCI TO DELIVER

Tracking #:

Merchandise cannot be returned without permission. Claims for shortages or errors must be made in writing within thirty (30) days after receipt of goods. All approved returns must include a JCI return authorization number and may be subject to a restocking fee up to 25%.

JCI Industries, Inc. acceptance of buyer's order is conditioned upon buyer's assent to the terms and conditions set forth on <http://www.jciind.com/landc>. Any additional or contrary terms are hereby rejected.

*** REPRINT ***

12/11/21, 11/19/2021

INVOICE

Remit To:

JCI Industries, Inc
PO Box 411114
Kansas City, MO 64141
816-525-3320

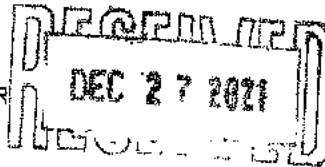


INVOICE	
SO1202260	
Invoice Date	Page
12/21/2021	1
ORDER NUMBER	
1202260	

Branch 09 JEFFERSON CITY

Bill To:

LAKE OZARK/OSAGE BEACH JOINT SEWER BOARD
PO BOX 1985
LAKE OZARK, MO 65049



Ship To:

ALLIANCE WATER RESOURCES
#3 ANDERSON ROAD
LAKE OZARK, MO 65049

Customer ID: 400263

PO Number				Term Description		Net Due Date	
GARY HUTCHCRAFT				NET 30		1/20/2022	
Order Date		Pick Ticket No		Primary Salesrep Name		Order Taker	
11/30/2021				Ben Reinkemeyer, JJ		HHASKELL	
Quantities				Item ID	Pricing UOM	Unit	Extended
Ordered	Shipped	Remaining	UOM		Unit Size		
1	1	0	EA	P FAIRBANKS 11-30-21	EA	2,300.00	2,300.00
				1.0 FAIRBANKS MORSE PUMP	1.0000		

Total Lines: 390 RAS Pump REBUILT
Total Freight In: 0
GL Acct #: 4020
Signature: Gary Hutchcraft
Date: 12/27/21
Tracking #:
SUB-TOTAL: 2,300.00
FREIGHT: -
TAX: -
AMOUNT DUE: 2,300.00
Carrier:
U.S. Dollars

Merchandise cannot be returned without permission. Claims for shortages or errors must be made in writing within thirty (30) days after receipt of goods. All approved returns must include a JCI return authorization number and may be subject to a restocking fee up to 25%

ORIGINAL



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- * Pay by mail: PO Box 88068, Chicago, IL 60680-1068
- * Pay online or manage your account: AmerenMissouri.com
- * Customer Service: 1.877.426.3736

FOCUSED ENERGY. For life.

Account Number 4580005832
Customer Name ALLIANCE WATER RESOURCES INC
Service Address 3 ANDERSON RD.
LAKE OZARK, MO 65049

AMOUNT DUE \$3,599.47

Due Date 02/02/2022

Current Detail for Statement 01/11/2022

Total Electric Charges \$3,599.47

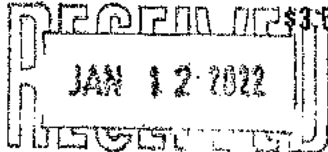
Amount After Due Date \$3,653.46

Total Amount Due \$3,599.47

Previous Statement \$2,267.67

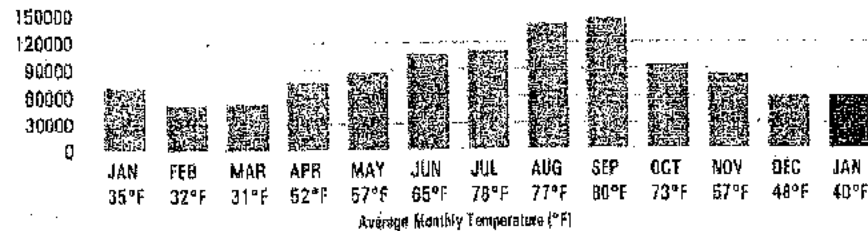
Total Payments \$2,267.67

Payment Received. Thank You.



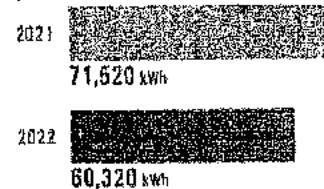
Electric Usage History

Electric Usage in Kilowatt Hours (kWh)



Electric Usage Summary (kWh)

So far this year, you're using 15.7% less than last year.



Usage for Jan 2021 & 2022

Keeping You Informed.

Update your account information so we can contact you when crews are working in your neighborhood. Fill out the slip and mail it in or update your online account. Don't have an online account? Sign up today at AmerenMissouri.com.

CL Acct#: 4175
Signature: [Signature]
Date: 1/12/22

» See next page for service details.

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Page 1 of 4

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Amount Due	Due Date
\$3,599.47	February 02, 2022
Delinquent Amount After Due Date	Account Number
\$3,653.46	4580005832

Amount Enclosed \$ _____

>005384 2022088 0006 092139 102

ALLIANCE WATER RESOURCES INC
PO BOX 1985
LAKE OZARK, MO 65049-1985

AMEREN MISSOURI
PO BOX 88068
CHICAGO IL 60680-1068

00600000 0045800058302 000003599470 000003599470
-23-



- Pay by phone: 1.866.268.3729
- Pay by mail: PO Box 88068, Chicago, IL 60680-1068
- Pay online or manage your account: AmerenMissouri.com
- Customer Service: 1.877.426.3736

FOCUSED ENERGY. For life.

Electric Service Details Service from 12/06/2021 - 01/09/2022 (34 days)

Electric Meter Read

METER NUMBER	SERVICE FROM - TO	NO. DAYS	USAGE TYPE	READING TYPE	CURRENT READING	PREVIOUS READING	READING DIFFERENCE	MULTIPLIER	USAGE
11873321	12/06 - 01/09	34	Total kWh	Actual	70861.0000	70474.0000	387.0000	160.0000	60320.0000
11873321	12/06 - 01/09	34	Peak kW	Actual	0.8120	0.0000	0.8120	160.0000	97.9000

Usage Summary

Total kWh	60320.0000	Non-Summer kWh	60320.0000
Peak kW	97.9000	Billing Demand	97.9000
Total Billing Demand	100.0000	October Winter Base kW	162.4000
Winter Base Demand	97.9000	Base kWh Ratio	1.0000
Base kWh (HUD)	60320.0000	Seasonal kWh (HUD)	0.0000

Rate 3M Large General Service

DESCRIPTION	USAGE	UNIT	RATE	CHARGE
Seasonal Energy Charge	0.00	kWh	@ \$ 0.03560000	\$0.00
Summer Demand Charge	100.00	kW	@ \$ 0.00000000	\$0.00
Winter Demand Charge	100.00	kW	@ \$ 2.00000000	\$200.00
Energy Charge/Hours Used	0.00	kWh	@ \$ 0.09690000	\$0.00
Base Energy Charge / Hours Used	14,685.00	kWh	@ \$ 0.06090000	\$894.32
Base Energy Charge / Hours Used	19,580.00	kWh	@ \$ 0.04520000	\$885.02
Base Energy Charge / Hours Used	26,055.00	kWh	@ \$ 0.03560000	\$927.56
Customer Charge				\$95.29
Fuel Adjustment Charge	60,320.00	kWh	@ \$ 0.00414000	\$248.72
Energy Efficiency Investment Charge	60,320.00	kWh	@ \$ 0.00559200	\$337.31
Renewable Energy Adjustment	60,320.00	kWh	@ \$ 0.00017000	\$10.25
Total Service Amount				\$3,599.47
Total Electric Charges				\$3,599.47

Questions? Contact Ameren Missouri at 1.877.426.3736 or visit AmerenMissouri.com.

Page 2 of 4

Address Changes or Corrections

Name _____
 Address _____
 City, State, Zip _____
 Phone Number _____

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PHONE
866.268.3729



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CREDIT CARD



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- Pay by mail: PO Box 88068, Chicago, IL 60680-1068
- Pay online or manage your account: AmerenMissouri.com
- Customer Service: 1.877.426.3736

FOCUSED ENERGY. For life.

Account Number 5580005920
Customer Name ALLIANCE WATER RESOURCES INC
Service Address 3 ANDERSON RD
LAKE OZARK, MO 65049

AMOUNT DUE \$176.66

Due Date 02/02/2022

Current Detail for Statement 01/11/2022

Total Electric Charges \$176.66

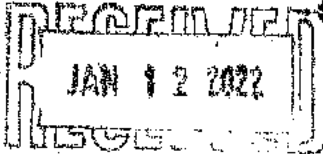
Amount After Due Date \$179.31

Total Amount Due \$176.66

Previous Statement \$80.73

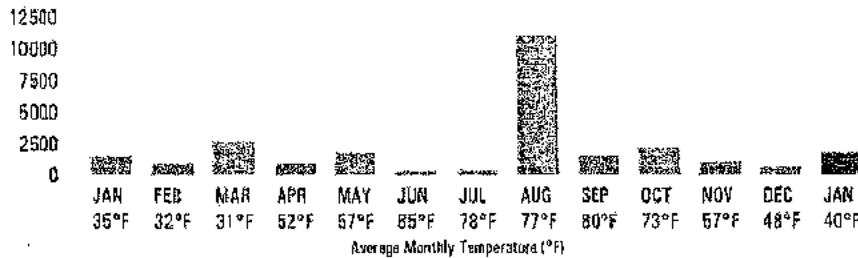
Total Payments \$80.73

Payment Received. Thank You.



Electric Usage History

Electric Usage in Kilowatt Hours (kWh)



Electric Usage Summary (kWh)

So far this year, you're using 18.7% more than last year.

2021 1,500 kWh

2022 1,780 kWh

Usage for Jan 2021 & 2022

13073 05392 20220801 010630 02 1359 0001/0002

Keeping You Informed.

Update your account information so we can contact you when crews are working in your neighborhood. Fill out the slip and mail it in or update your online account. Don't have an online account? Sign up today at AmerenMissouri.com.

GL Acct#: 4675

Signature: *[Handwritten Signature]*

Date: 1/12/22



» See next page for service details.

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Page 1 of 4

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Amount Due	Due Date
\$176.66	February 02, 2022
Delinquent Amount After Due Date	Account Number
\$179.31	5580005920
Amount Enclosed \$	

>005382 20220801 0006 072139 102

ALLIANCE WATER RESOURCES INC
PO BOX 1985
LAKE OZARK, MO 65049-1985

AMEREN MISSOURI
PO BOX 88068
CHICAGO IL 60680-1068

90633000 0055800059200 000000176660 000000176660



- Pay by phone: 1.866.268.3729
- Pay by mail: PO Box 88068, Chicago, IL 60680-1068
- Pay online or manage your account: AmerenMissouri.com
- Customer Service: 1.877.426.3736

FOCUSED ENERGY. For life.

Electric Service Details Service from 12/06/2021 - 01/09/2022 (34 days)

Electric Meter Read

METER NUMBER	SERVICE FROM TO	NO. DAYS	USAGE TYPE	READING TYPE	CURRENT READING	PREVIOUS READING	READING DIFFERENCE	MULTIPLIER	USAGE
98041275	12/06 - 01/09	34	Total kWh	Actual	23798.0000	23620.0000	178.0000	10.0000	1780.0000
98041275	12/06 - 01/09	34	Peak kW	Actual	2.8800	0.0000	2.8800	10.0000	28.8000

Usage Summary

Total kWh	1780.0000	Non-Summer kWh	1780.0000
Winter Base kWh	1830.0000	Current Base kWh	1780.0000
Winter Cur Base kWh	1780.0000	Seasonal kWh	0.0000

Rate 2M Sm Gen Svc - 3 Ph w/Dmd

Threshold - Peak Demand

DESCRIPTION	USAGE	UNIT	RATE	CHARGE
Base Energy Charge	1,780.00	kWh	@ \$ 0.07790000	\$138.66
Seasonal Energy Charge	0.00	kWh	@ \$ 0.04490000	\$0.00
Customer Charge				\$19.99
Fuel Adjustment Charge	1,780.00	kWh	@ \$ 0.00414000	\$7.37
Energy Efficiency Investment Charge	1,780.00	kWh	@ \$ 0.00581100	\$10.34
Renewable Energy Adjustment	1,780.00	kWh	@ \$ 0.00017000	\$0.30
Total Service Amount				\$176.66
Total Electric Charges				\$176.66

Payments Since Previous Statement

DATE RECEIVED	AMOUNT
December 27, 2021	\$80.73

Questions? Contact Ameren Missouri at 1.877.426.3736 or visit AmerenMissouri.com.

Page 2 of 4

Address Changes or Corrections

Name _____
 Address _____
 City, State, Zip _____
 Phone Number _____

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**MONTH-TO-DATE AND YEAR-TO-DATE
REVENUE/BUDGET ANALYSIS**

		11/30/2021					
Account		2019	2020	2021	2021	2021	Percent
Number	Account Name	Actual	Actual	Budget	Actual as of 11/30/2021	Nov Revenue	YTD
3020	Osage Beach	475,091.53	475,836.10	473,000.00	426,421.21	39,031.30	90%
3010	Lake Ozark	74,908.46	74,163.90	77,000.00	77,745.44	6,802.03	101%
3030	Misc.	0.00	4,500.00	0.00	22,000.00	22,000.00	0%
3100	Interest	4,286.79	4,019.49	2,000.00	2,698.82	190.10	135%
3060	Waste Haulers' Fee	26,260.00	39,320.00	36,000.00	58,040.00	3,320.00	161%
Total Operating Fund		580,546.78	597,839.49	588,000.00	586,905.47	71,343.43	100%
E/R Fund Income		9,001.77	8,955.85	6,000.00	5,481.32	830.44	91%
TOTAL INCOME		589,548.55	606,795.34	594,000.00	592,386.79	72,173.87	100%

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**MONTH-TO-DATE AND YEAR-TO-DATE
EXPENDITURE/BUDGET ANALYSIS
11/30/2021**

Account Number	Account Name	2019 Actual	2020 Actual	2021 Budget	2021 Actual as of 11/30/2021	2021 Nov Expenses	Percent YTD
4000	Equipment Replace Fund	41,604.00	71,604.00	121,606.00	133,474.00	32,134.00	110%
4020	*Maintenance & Repair	104,062.97	26,299.39	111,800.00	100,116.70	15,003.35	90%
4140	Insurance	18,761.00	19,865.00	19,200.00	21,493.00	0.00	112%
4160	Vehicle Repair/Main	5,478.60	12,479.74	11,500.00	11,099.99	464.68	97%
4170	Contract Management	299,592.00	305,580.00	314,752.00	282,920.00	25,720.00	90%
4175	Electric	73,276.87	75,077.36	81,500.00	79,879.01	5,232.89	98%
4176	Utilities Misc.	3,717.52	2,485.59	3,500.00	3,369.48	208.07	96%
4190	Bank Charges	176.00	32.60	0.00	0.00	0.00	0%
4200	Audit	2,400.00	2,648.50	2,600.00	2,600.00	0.00	100%
4240	Capital Purchases	145,247.00	0.00	500.00	0.00	0.00	0%
	Totals	694,316.96	516,072.18	666,958.00	634,952.18	78,762.98	95%
	**E/R Expenses	41,280.51	85,258.27	221,000.00	202,161.70	0.00	91%
	TOTAL EXPENSES	735,597.47	601,330.45	887,958.00	837,113.88	78,762.98	94%

2020 CARRY

	<u>*Maintenance & Repair</u>		<u>**Equipment & Replacement</u>	
	Accounting - QuickBooks	300.00	Replace Pista Grit Cart w/machine work	3,000.00 X
	Auto Dealer Yrly Software Fee	500.00	Replace wooden doors w/fiberglass	2,000.00
	Regular Maintenance	15,000.00	Rebuild 3 RAS pumps	10,000.00
	UV Spare Parts	10,000.00	Replace lawn mower	6,000.00 X
	Duckling skimmer arm Elec repair	5,000.00	Sludge Truck	200,000.00 X
	Rock for Road	2,000.00	6,759.00 FINAL - Parking Lot Lights	-
X	Chain-link fence repair	4,000.00		-
	Sandblast & paint clarifier #2		68,400.00	-
				-
		36,800.00		221,000.00

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OPERATING FUND INCOME AND EXPENSE SUMMARY
11/30/2021

Beginning Balance	301,693.17
Income - Osage Beach	39,031.30
Income - Lake Ozark	6,802.03
Income - Other	22,000.00
Income - Waste Haulers' Fees	3,320.00
Interest - Checking	1.46
Income - CD Interest	188.64
Transfers From E/R Fund	-
Transfers to E/R Fund	(32,134.00)
Expenses	(46,629.56)
Ending Fund Balance	294,273.04
Central Bank - NOW Acct.	73,995.98
	-
CD First Bank of the Lake, 8/20/22 #101318432	107,104.29
CD First Bank of the Lake, 7/22/22 #101318433	113,172.77
	-
Outstanding Checks:	-
	294,273.04

EQUIPMENT REPLACEMENT FUND INCOME AND EXPENSE SUMMARY
11/30/2021

Beginning Balance	436,251.90
Interest - Checking	20.54
Income - CD Interest	809.90
Transfers to E/R Fund	10,134.00
Income - Miscellaneous	22,000.00
Expenses	-
Ending Fund Balance	469,216.34
First Bank of the Lake - Money Mkt.	89,689.83
CD First Bank of the Lake, 10/31/22 #101318430	109,526.51
CD First Bank of the Lake, 11/07/23 #101318434	270,000.00
	-
	-
Outstanding Checks:	-
	469,216.34

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We partner with communities to deliver the finest water and wastewater services available at a competitive price. We are committed to keeping water safe and clean while serving people and taking care of communities with improved technical operations, careful management and financial oversight and ensured regulatory compliance.

**Alliance Water
Resources,
Inc.**

206 S. Keene
St.
Columbia, MO
65201

(573)874-8080

WATER RESOURCES®
Alliance
Professional Water and Wastewater Operations

REPORT OF OPERATIONS

**LAKE OZARK/OSAGE BEACH
Joint Wastewater Treatment Plant No. 1**

Month of November 2021

Submitted by Alliance Water Resources, Inc. for the

December 2021

Joint Sewer Board Meeting

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SUMMARY OF FACILITY OPERATION

The Lake Ozark/Osage Beach Joint WWTP produced superior effluent quality throughout the month and was in full compliance with effluent limitations established in NPDES Permit No. MO-0103241. No leaks, no spills, and no unauthorized releases to waters of the state. No work related lost time accidents have occurred during the month.

Detailed information relating to plant performance and operations is presented as follows.

PLANT EFFLUENT QUALITY

	BOD mg/l	TSS mg/l	pH	E.coli Colonies/100 ml	Coliform mg/L	Ammonia as N mg/L	O&G mg/L
Monthly/Quarterly Avg	1.8	1.6	N/A	0.0		0.04	
Peak Day	1.9	2.3	7.8	0.0		0.05	
Percent Removal	99.8	99.6	N/A	N/A		N/A	N/A

NPDES EFFLUENT LIMITATIONS

	BOD mg/l	TSS mg/l	pH	E.coli Colonies/100 ml	Coliform mg/L	Ammonia as N mg/L	O&G mg/L
Monthly/Quarterly Avg	30	30	6-9	126		*	10
Weekly Average	45	45		630		monitor	
Daily Max				N/A		only	15

PLANT HYDRAULIC AND ORGANIC LOADING

The average daily influent flow for the month was 1.007 MGD or 34% of Permitted flow with Lake Ozark contributing 17% of the total flow and Osage Beach contributing 83%. Daily influent flow BOD and TSS data is presented in Table A. Daily flow for the month and rainfall are shown in Figure 2. A three-year flow history for each of the two cities is presented in Table B.

Organic loading for the month was 61364 pounds of BOD.

BIOSOLIDS APPLICATION AND INVENTORY

Plant personnel land applied 46 tanker loads of bio-solids during the month equivalent to a total of 165,600 gallons and 63,621 pounds dry weight solids.

461,438 pounds of dry weight solids have been land applied year to date.

Bio-solids inventory in the storage tanks at the end of the month was 225,000 gallons with a level of 3.0 feet in Tank 1 and 2.0 feet in Tank 2.

WASTEHAULERS

The plant received 37 loads of septage during the month totaling 83,000 gallons.

WWTP OPERATIONS

- Decanting digesters and wasting weekly.
- Normal operations.
- We shut down the UV system on November 1st.

WWTP MAINTENANCE AND REPAIR

- Performed routine maintenance throughout the month as per Antero Maintenance Data Management schedule. (New version of Operator 10 Software)
- Catalyst Electric was back on the 8th of November to and install the new breaker in bar screen #2 control panel and to help troubleshoot any other problems with it. They were also asked to verify the calibration of the flow meters. They found the meters to be good with the calibration plates that we have but found that the keyboards on Lake Ozark and the Effluent meters non operable. They contacted Tech support and was told to either send the meters in for repair or try replacing the keyboards. While they were here, we had them install a new weather resistant junction box with a 110-volt receptacle at the L.O. & O.B. influent flume.

SAFETY

- We conducted our monthly Safety Meeting on Hazard Communication & Hazcom: Safety Data Sheet on the 2nd of November.

REGULATORY AGENCY, INSPECTION AND REPORTS

- We filled out the new EDMR on the EPA MoGEM website on the 7th of December.

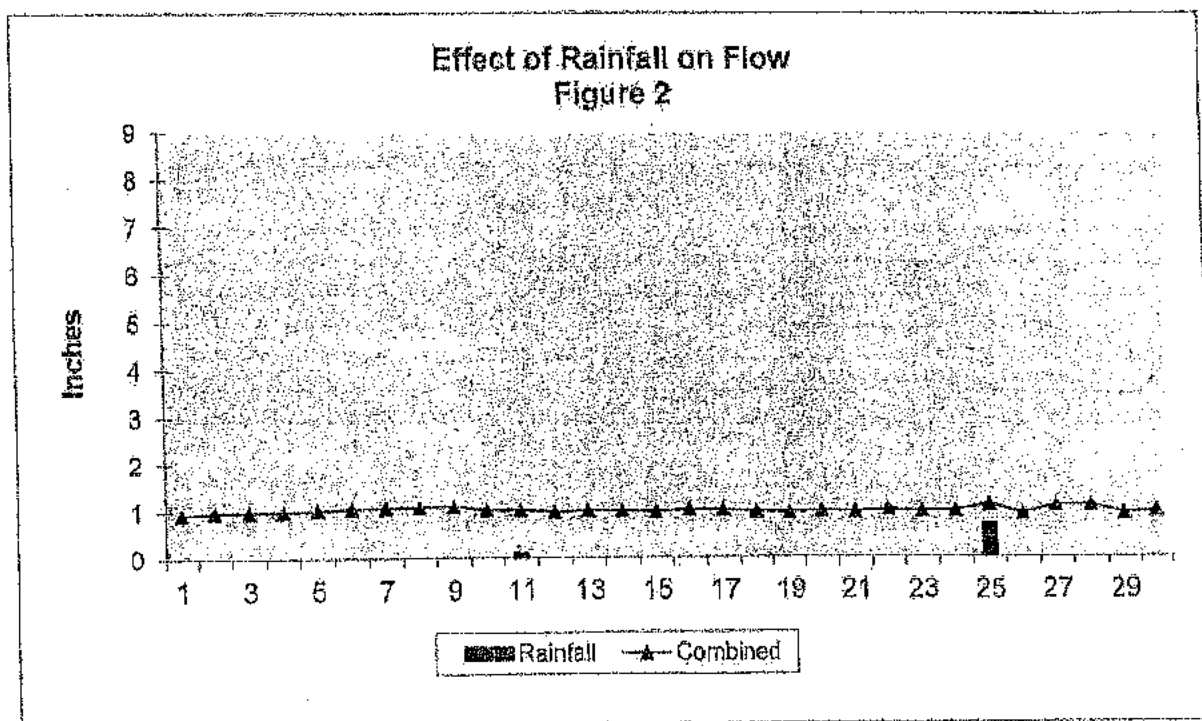
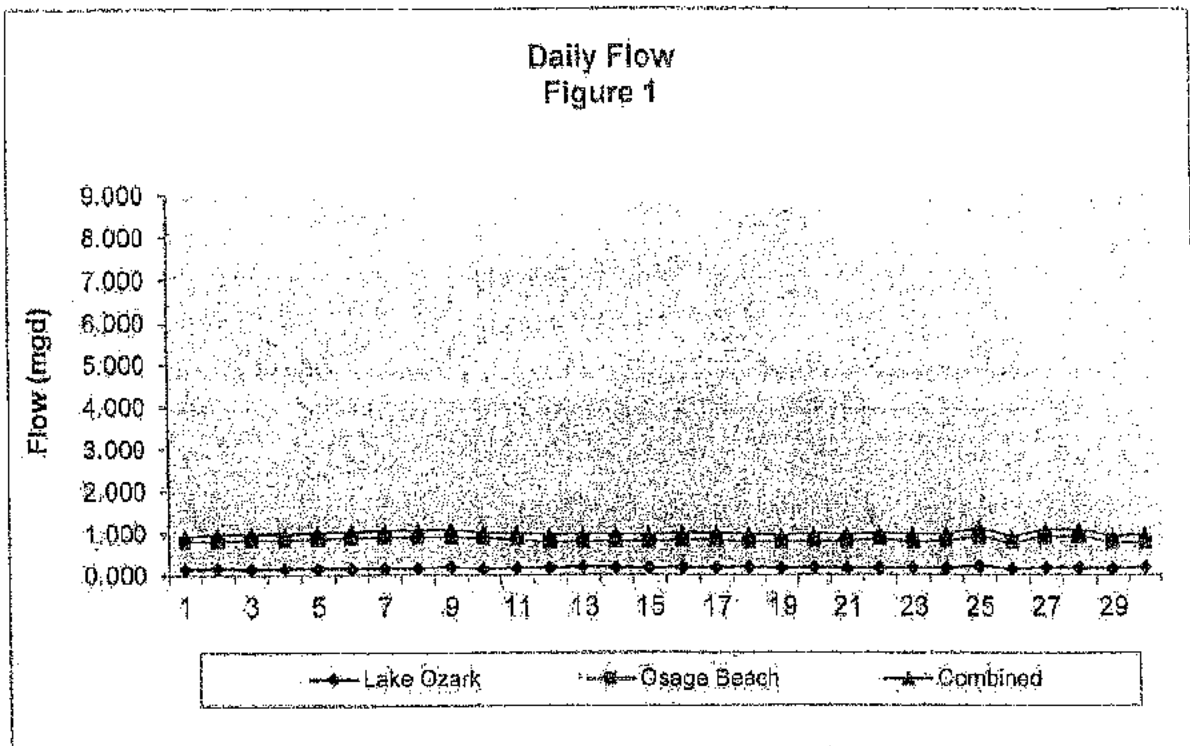
MISCELLANEOUS AND RECOMMENDATIONS

- We received a credit of \$1,333.20 for the billing cycle of 11/3/21 to 12/6/21 from Ameren UE due to a technical billing issue from earlier this year.

TABLE A
LAKE OZARK/OSAGE BEACH WWTP

MONTH OF November 2021

DATE		FLOW					BOD 5 MG/L			TSS MG/L		
	RAIN FALL IN.	LO mgd	OB mgd	COMB mgd	% LO	% OB	LO mg/l	OB mg/l	COMB mg/l	LO mg/l	OB mg/l	COMB mg/l
1-Nov	0	0.136	0.798	0.934	14.6	85.4						
2-Nov	0	0.161	0.818	0.979	16.4	83.6						
3-Nov	0	0.149	0.837	0.986	15.1	84.9						
4-Nov	0	0.155	0.839	0.994	15.6	84.4						
5-Nov	0	0.155	0.871	1.026	15.1	84.9	248	163	320	282	202	768
6-Nov	0	0.159	0.896	1.055	15.1	84.9						
7-Nov	0	0.163	0.918	1.078	15.1	84.9						
8-Nov	0	0.168	0.912	1.080	15.6	84.4						
9-Nov	0	0.200	0.900	1.100	18.2	81.8						
10-Nov	0	0.143	0.885	1.030	14.1	85.9						
11-Nov	0.1	0.167	0.854	1.021	16.4	83.6						
12-Nov	0	0.173	0.799	0.972	17.8	82.2	178	198	203	128	188	240
13-Nov	0	0.201	0.795	0.996	20.2	79.8						
14-Nov	0	0.179	0.817	0.996	18.0	82.0						
15-Nov	0	0.160	0.802	0.962	16.6	83.4						
16-Nov	0	0.177	0.838	1.015	17.4	82.6						
17-Nov	0	0.174	0.838	1.012	17.2	82.8						
18-Nov	0	0.183	0.789	0.972	18.8	81.2						
19-Nov	0	0.157	0.792	0.949	16.5	83.5	193	203	236	150	224	304
20-Nov	0	0.176	0.811	0.987	17.8	82.2						
21-Nov	0	0.162	0.811	0.973	16.6	83.4						
22-Nov	0	0.156	0.854	1.010	15.4	84.6						
23-Nov	0	0.169	0.809	0.978	17.3	82.7						
24-Nov	0	0.162	0.813	0.975	16.6	83.4	178	193	195	126	212	206
25-Nov	0.7	0.216	0.912	1.128	19.1	80.9						
26-Nov	0	0.141	0.782	0.923	15.3	84.7						
27-Nov	0	0.176	0.916	1.092	16.1	83.9						
28-Nov	0	0.170	0.933	1.103	15.4	84.6						
29-Nov	0	0.150	0.777	0.927	16.2	83.8						
30-Nov	0	0.185	0.779	0.964	19.2	80.8						
SUM	0.8	5.025	25.192	30.217								
AVG		0.168	0.840	1.007	17	83	199	190	244	172	207	380
NOTE: BOLD PRINT INDICATES WEEKEND DAYS												



<u>2019</u>	<u>RAINFALL</u>	<u>OSAGE BEACH</u>		<u>LAKE OZARK</u>		<u>TOTAL</u>	<u>%</u>
January	2.1	32,085,000	87%	4,708,000	13%	36,793,000	100%
February	4.4	29,492,000	86%	4,650,000	14%	34,142,000	100%
March	6.3	36,210,000	86%	5,876,000	14%	42,086,000	100%
April	4.1	37,991,000	86%	6,135,000	14%	44,126,000	100%
May	9.9	49,124,000	85%	8,333,000	15%	57,457,000	100%
June	6.0	49,051,000	86%	7,864,000	14%	56,915,000	100%
July	4.8	57,666,000	86%	9,132,000	14%	66,798,000	100%
August	6.0	53,074,000	87%	8,215,000	13%	61,289,000	100%
September	3.5	47,732,000	87%	7,165,000	13%	54,897,000	100%
October	11.1	44,971,000	86%	7,194,000	14%	52,165,000	100%
November	3.5	33,141,000	87%	4,779,000	13%	37,920,000	100%
December	1.8	33,575,000	88%	4,708,000	12%	38,283,000	100%

63.2	504,112,000	86%	78,759,000	13%	582,871,000	100%
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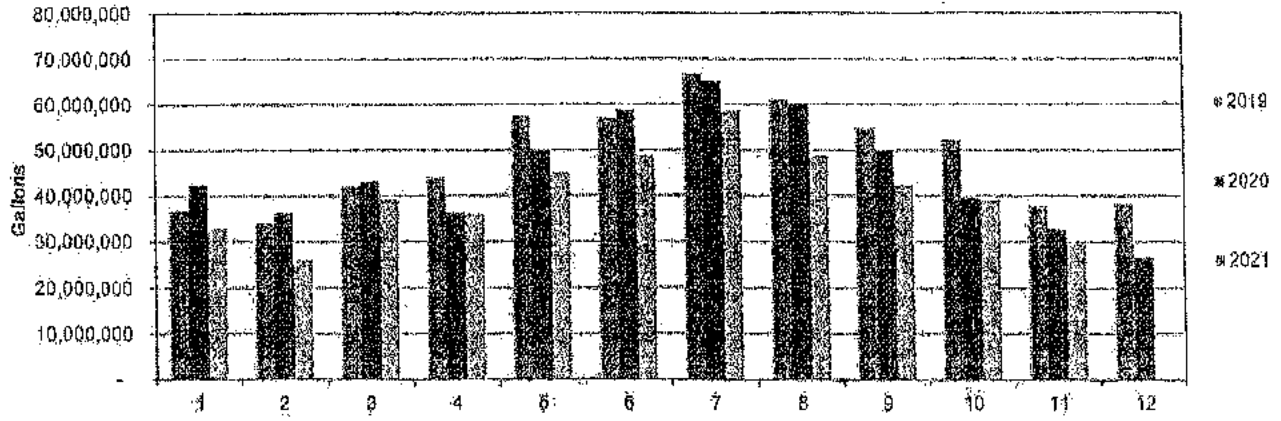
<u>2020</u>	<u>RAINFALL</u>	<u>OSAGE BEACH</u>		<u>LAKE OZARK</u>		<u>TOTAL</u>	<u>%</u>
January	7.7	36,806,000	86%	5,780,000	14%	42,586,000	100%
February	3.6	31,279,000	86%	4,986,000	14%	36,265,000	100%
March	6.1	37,286,000	86%	5,888,000	14%	43,174,000	100%
April	5.2	31,967,000	88%	4,324,000	12%	36,291,000	100%
May	5.3	43,538,000	87%	6,443,000	13%	49,981,000	100%
June	4.8	50,936,000	87%	7,780,000	13%	58,716,000	100%
July	6.9	56,437,000	87%	8,616,000	13%	65,053,000	100%
August	2.3	52,449,000	87%	7,883,000	13%	60,332,000	100%
September	8.4	42,235,000	83%	7,636,000	15%	49,871,000	100%
October	5.4	33,173,000	84%	6,448,000	16%	39,621,000	100%
November	4.3	27,630,000	84%	5,102,000	16%	32,732,000	100%
December	1.3	22,749,000	85%	3,949,000	15%	26,698,000	100%

61.3	466,485,000	86%	74,835,000	14%	541,320,000	100%
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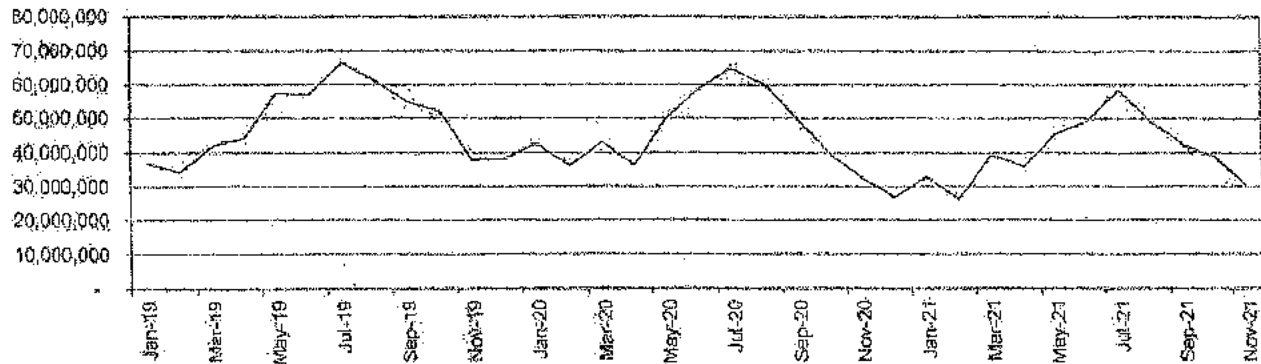
<u>2021</u>	<u>RAINFALL</u>	<u>OSAGE BEACH</u>		<u>LAKE OZARK</u>		<u>TOTAL</u>	<u>%</u>
January	6.0	28,107,000	85%	4,855,000	15%	32,962,000	100%
February	3.0	22,136,000	85%	4,048,000	15%	26,184,000	100%
March	4.0	32,848,000	84%	6,450,000	16%	39,298,000	100%
April	5.2	30,179,000	84%	5,792,000	16%	35,971,000	100%
May	5.2	37,964,000	84%	7,479,000	16%	45,443,000	100%
June	8.0	41,695,000	85%	7,390,000	15%	49,085,000	100%
July	6.9	49,378,000	85%	9,000,000	15%	58,378,000	100%
August	1.8	41,691,000	85%	7,211,000	15%	48,902,000	100%
September	3.1	36,185,000	85%	6,306,000	15%	42,491,000	100%
October	6.0	32,925,000	85%	5,987,000	15%	38,912,000	100%
November	0.8	25,192,000	83%	5,025,000	17%	30,217,000	100%
December							

49.9	378,300,000	84%	69,543,000	16%	447,843,000	100%
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Monthly Influent Flow
Figure 3A

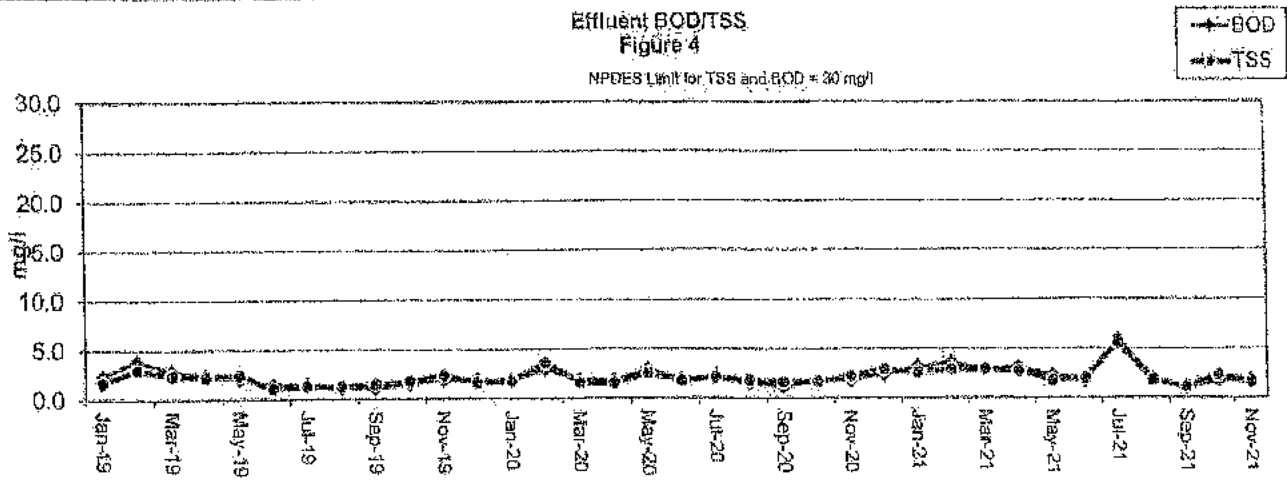


Monthly Influent Flow
Figure 3B



Effluent BOD/TSS
Figure 4

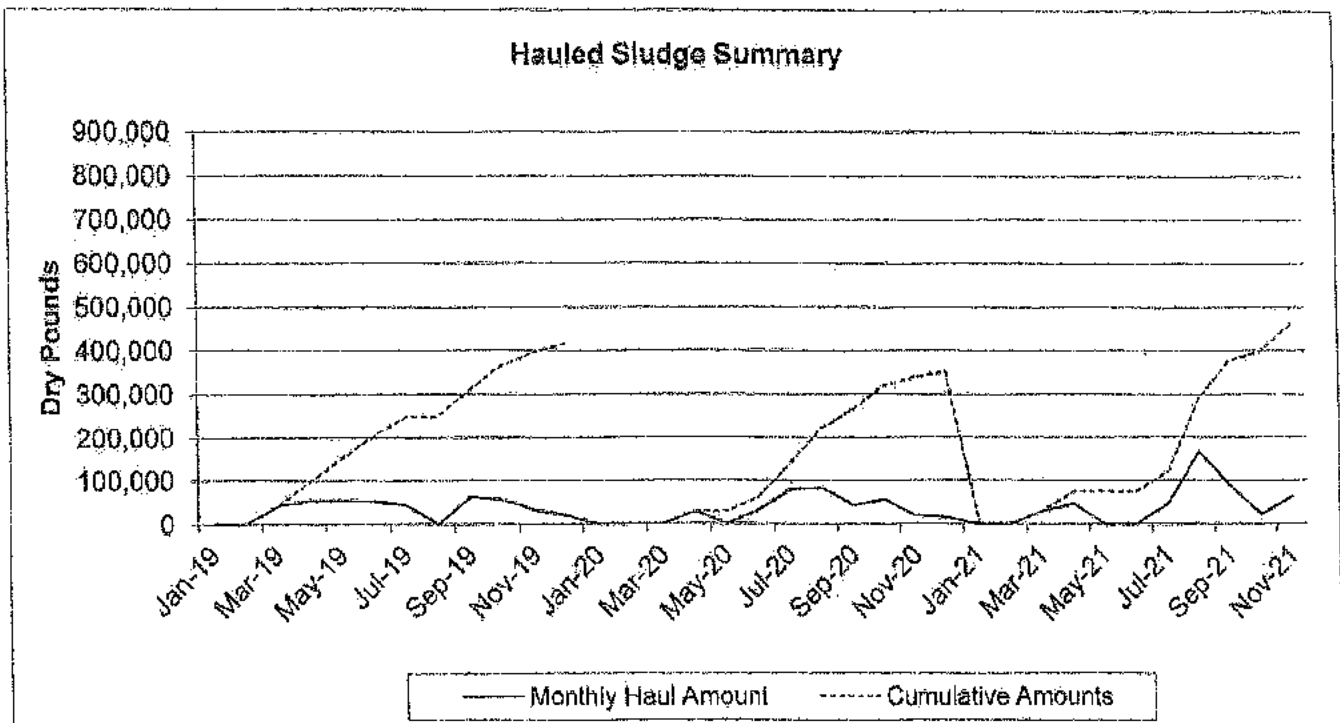
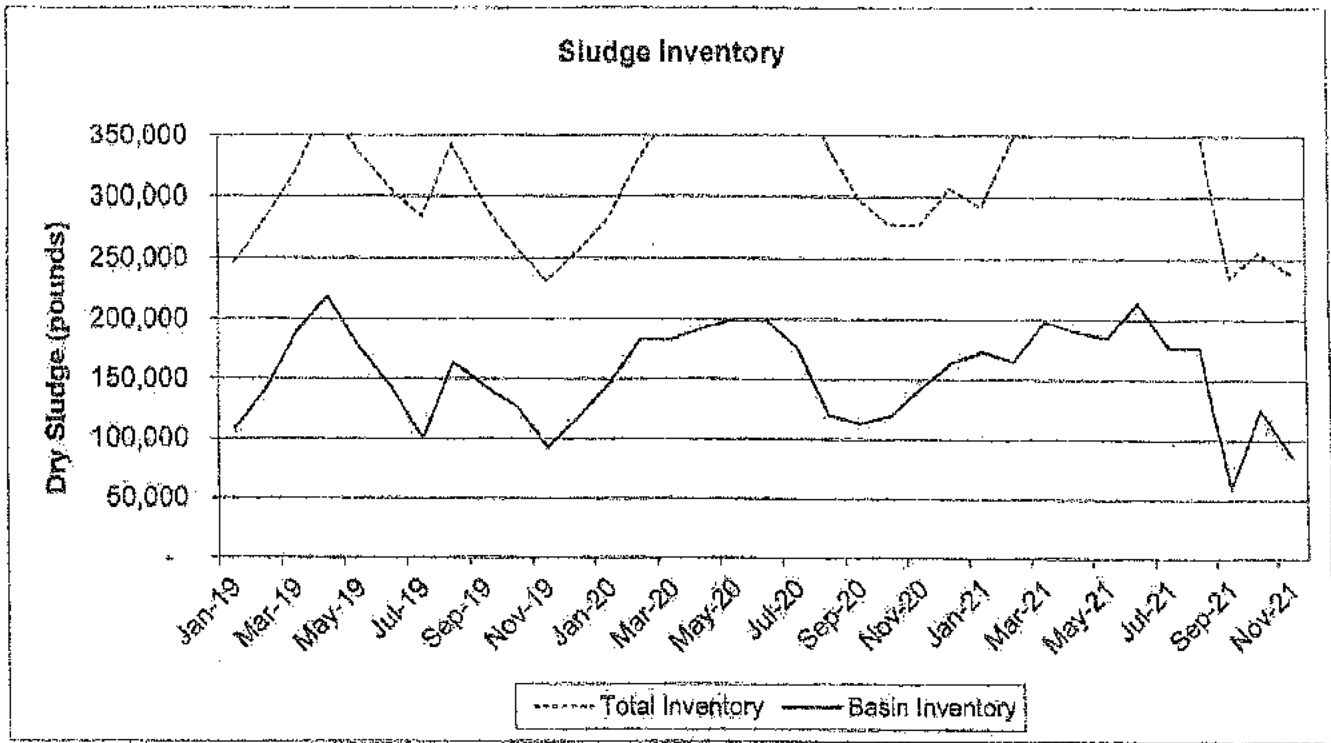
NPDES Limit for TSS and BOD = 30 mg/l



	Hauled Sludge				
	Loads	Gallons	# Dry	% Solids	Annual Cumulative # Dry
Jan-19	0	-	0	3.4%	-
Feb-19	0	-	0	3.4%	-
Mar-19	36	133,200	43,139	3.9%	43,139
Apr-19	39	144,300	53,940	4.5%	97,079
May-19	49	181,300	54,666	3.6%	151,645
Jun-19	44	162,800	51,872	3.8%	203,517
Jul-19	37	136,900	43,533	2.8%	247,450
Aug-19	0	-	0	3.8%	247,450
Sep-19	58	214,600	62,487	3.5%	309,937
Oct-19	50	185,000	54,742	3.5%	364,679
Nov-19	29	107,300	31,529	3.5%	396,208
Dec-19	17	62,900	20,643	3.9%	416,851
Jan-20	0	-	0	3.9%	-
Feb-20	0	-	0	3.9%	-
Mar-20	0	-	0	3.6%	-
Apr-20	25	92,500	29,315	3.8%	29,315
May-20	0	-	0	3.8%	29,315
Jun-20	25	92,500	31,860	4.1%	60,975
Jul-20	69	255,300	77,268	3.6%	138,243
Aug-20	78	281,200	83,286	3.6%	221,529
Sep-20	38	140,600	41,627	3.5%	263,156
Oct-20	45	166,500	55,298	4.0%	318,454
Nov-20	18	66,600	19,255	3.5%	337,709
Dec-20	11	40,700	14,843	4.4%	352,552
Jan-21	0	-	0	4.4%	-
Feb-21	0	-	0	4.4%	-
Mar-21	23	85,100	28,883	4.1%	28,883
Apr-21	39	144,300	45,269	3.8%	74,152
May-21	0	-	0	3.8%	74,152
Jun-21	0	-	0	3.8%	74,152
Jul-21	40	144,000	47,378	3.9%	121,530
Aug-21	153	550,800	166,363	3.6%	287,893
Sep-21	92	331,200	97,225	3.2%	385,119
Oct-21	17	61,200	22,666	4.4%	397,817
Nov-21	46	165,600	63,621	4.6%	461,438

Basin Capacity				
Tank #1	Tank #2	AS #3	Basin Gallons	# Dry
5.0	3.5	0.0	382,500	109,462
6.0	5.0	0.0	495,000	140,362
6.0	7.0	0.0	585,000	189,462
5.5	7.5	0.0	585,000	218,878
8.0	6.0	0.0	585,000	177,036
7.0	8.0	0.0	460,000	143,381
3.0	4.0	0.0	315,000	100,397
5.5	6.0	0.0	517,500	164,006
7.0	4.0	0.0	495,000	144,134
7.5	2.0	0.0	427,500	126,458
3.5	3.5	0.0	315,000	92,853
6.0	2.0	0.0	380,000	118,348
6.0	4.0	0.0	460,000	146,387
6.5	6.0	0.0	562,500	182,569
5.5	7.0	0.0	582,500	182,569
6.0	7.5	0.0	607,500	192,828
6.0	8.0	0.0	630,000	196,660
6.0	7.0	0.0	585,000	200,226
8.0	7.0	0.0	585,000	177,054
5.0	4.0	0.0	409,000	119,953
4.0	4.5	0.0	362,500	113,246
5.0	3.0	0.0	360,000	119,563
5.0	5.0	0.0	465,000	143,111
4.5	5.5	0.0	450,000	164,142
7.0	3.5	0.0	472,500	173,389
5.0	5.0	0.0	460,000	165,132
6.0	7.0	0.0	585,000	196,549
6.0	7.5	0.0	607,500	190,592
6.0	7.0	0.0	585,000	185,398
7.0	8.0	0.0	675,000	215,921
5.0	7.0	0.0	540,000	177,666
7.0	6.0	0.0	585,000	176,893
2.0	3.0	0.0	226,000	59,257
3.5	4.0	0.0	397,500	125,173
3.0	2.0	0.0	226,000	60,442

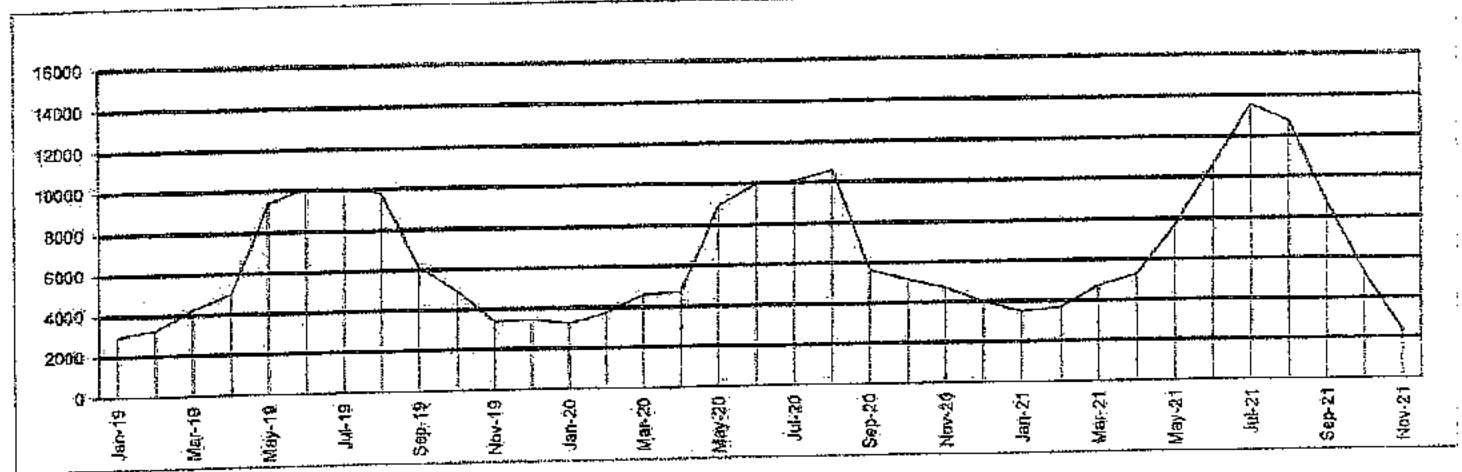
Blanket Depth			MLSS Inventory		Blanket and MLSS Inventory		MLSS	Total Dry	Accepted Septage	
Clarifier #1	Clarifier #2	Clarifier #3	MLSS #1	MLSS #2	Gallons	# Dry	% Solids	Sludge Inventory	Loads	Gallons
1.0	1.0	0.0	4,650	4,480	3,635,524	189,412	0.00457	245,874	19	46,500
1.0	1.0	0.0	4,570	4,740	3,636,524	191,141	0.00466	281,503	31	79,500
0.5	1.0	0.0	4,780	3,820	3,826,943	131,571	0.00435	321,033	9	21,500
1.5	0.5	1.0	5,720	4,530	3,678,952	157,248	0.00513	375,923	23	61,500
3.0	1.5	1.0	5,150	5,180	3,723,357	180,077	0.00516	357,113	12	25,500
2.0	4.0	1.5	5,610	4,910	3,771,714	165,886	0.00521	307,267	19	47,500
2.0	3.0	0.5	6,090	5,830	3,710,524	183,973	0.00566	284,370	38	84,000
3.0	3.0	0.5	5,680	5,580	3,763,610	177,882	0.00587	341,988	29	72,500
2.0	1.0	1.0	4,460	5,310	3,656,714	150,607	0.00489	294,741	22	55,000
2.6	3.0	1.0	4,370	4,350	3,744,119	132,916	0.00426	269,414	40	97,000
3.5	5.0	0.0	4,980	3,893	3,750,977	138,145	0.00442	230,968	15	36,000
4.0	1.0	0.0	5,090	3,840	3,625,524	136,668	0.00482	255,044	14	32,000
1.0	1.5	0.0	4,280	4,690	3,644,405	136,015	0.00448	282,382	16	34,100
3.5	2.0	0.0	5,190	4,390	3,657,891	147,718	0.00479	380,678	23	57,000
2.0	6.0	0.0	5,760	5,340	3,762,762	183,825	0.00685	365,784	26	64,500
1.0	1.0	1.0	6,740	5,294	3,878,952	169,214	0.00652	361,742	39	107,000
1.0	7.0	1.0	8,016	6,110	3,785,524	191,322	0.00606	390,961	35	83,000
6.0	7.0	0.5	7,050	7,120	3,852,620	227,647	0.00709	427,675	6	18,000
7.0	7.0	1.0	6,690	7,880	3,802,066	231,603	0.00714	408,666	88	209,000
6.0	8.0	1.0	8,530	7,400	3,856,572	224,021	0.00687	343,674	67	158,000
1.0	7.0	0.5	8,000	6,200	3,657,238	189,068	0.0061	299,304	45	104,500
1.0	7.0	1.0	4,990	5,070	3,878,952	168,015	0.00513	277,578	16	32,000
1.0	6.0	0.5	4,780	4,080	3,639,476	184,485	0.00443	277,578	16	36,000
1.0	6.0	0.5	5,030	4,360	3,639,476	142,598	0.0047	308,620	33	69,000
6.0	0.0	1.0	3,810	3,780	3,750,000	118,689	0.0038	282,077	83	205,500
5.0	8.0	0.0	6,480	8,760	3,830,908	178,358	0.00662	344,660	28	69,500
2.0	5.0	0.5	6,830	6,336	3,746,048	205,573	0.00658	404,122	32	70,000
12.0	5.0	1.0	6,880	6,350	3,945,382	201,275	0.00612	391,967	22	52,000
13.0	14.0	1.0	6,200	6,336	4,123,002	215,427	0.00827	400,825	48	128,500
6.0	7.5	2.0	7,280	8,060	3,928,643	234,903	0.00717	448,824	63	151,500
7.0	12.0	3.0	9,190	5,110	4,067,762	279,340	0.00823	457,007	117	286,000
1.0	1.0	0.5	6,180	6,840	3,657,238	183,008	0.0060	359,701	86	163,000
1.0	1.0	0.5	5,320	6,180	3,657,238	175,383	0.0056	234,640	62	158,500
1.0	0.5	0.5	4,430	4,140	3,648,357	130,381	0.0043	255,554	34	89,000
0.5	1.0	0.0	5,130	4,980	3,828,643	152,138	0.0050	238,980	37	85,000



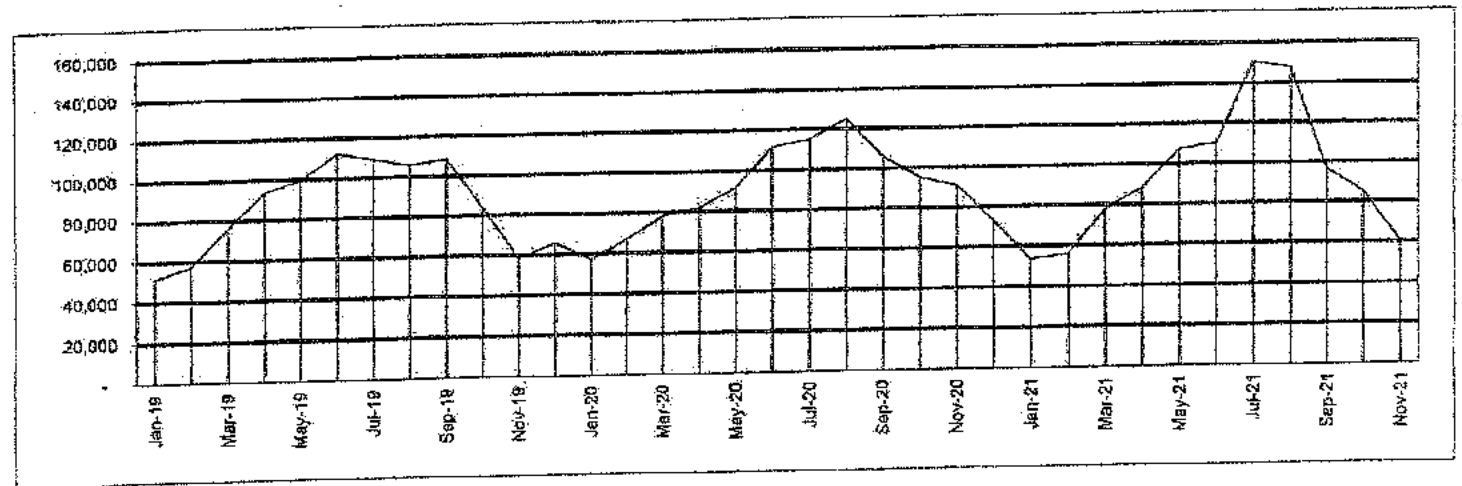
Electric Cost

Electric Cost Kilowatts Used

Jan-19	2926	51,490
Feb-19	3295	57,450
Mar-19	4251	75,830
Apr-19	5014	93,570
May-19	9452	99,330
Jun-19	10074	112,400
Jul-19	10088	109,190
Aug-19	9784	106,020
Sep-19	6115	108,680
Oct-19	4920	83,790
Nov-19	3390	58,410
Dec-19	3482	65,660
Jan-20	3259	57,250
Feb-20	3760	66,830
Mar-20	4637	78,070
Apr-20	4741	81,780
May-20	8962	91,550
Jun-20	9959	111,680
Jul-20	10100	115,300
Aug-20	10619	124,800
Sep-20	5669	106,220
Oct-20	5155	94,870
Nov-20	4734	90,890
Dec-20	4009	73,020
Jan-21	3524	53,730
Feb-21	3696	56,370
Mar-21	4776	77,720
Apr-21	5281	88,390
May-21	7727	107,320
Jun-21	10610	110,130
Jul-21	13533	150,740
Aug-21	12737	147,810
Sep-21	8751	96,600
Oct-21	5233	85,530
Nov-21	2348	60,370



Kilowatts Used





MISSOURI DEPARTMENT OF NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL QUALITY
 Discharge Monitoring Report For Municipal Wastewater Treatment Plants

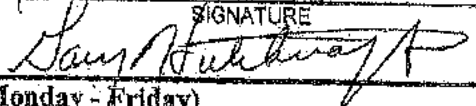
NAME OF FACILITY							LOCATION ADDRESS & CITY							COUNTY/REGION		
Lake of the Ozarks Regional WWTP #1							#3 Anderson Road							Miller/SWRO		
MONTH/YEAR		PERMIT NUMBER					OUTFALL NUMBER		TYPE TREATMENT FACILITY							
Nov-21		MO-0103241					#001		Oxidation Ditch/UV/Sludge Holding-sludge is land applied							
INFLUENT							EFFLUENT							% Removal		
DATE	pH UNITS	BOD mg/L	TSS mg/L	Ammonia as N mg/l	TEMP °C	FLOW MGD	pH UNITS	BOD mg/L	TSS mg/L	Ammonia as N mg/l	DO mg/L	E. coli COLFRM #/100 ML	TEMP °C	BOD mg/L	TSS mg/L	
1	7.1				15.7	1.850	7.5				9.3		13.7			
2	7.4				16.2	1.538	7.4				10.0		14.3			
3	7.4			40.6	15.1	1.411	7.7			0.05	10.1		13.3			
4	7.2				13.1	1.584	7.4				10.1		13.1			
5	7.1	320	768		14.5	1.909	7.4	1.9	2.3		9.9		13.1	99.4	99.7	
6	7.1				15.5	1.669	7.2				10.0		13.1			
7	7.0				14.5	1.787	7.2				9.9		12.2			
8	6.9				17.6	1.611	7.2				9.5		15.0			
9	7.0				17.6	1.350	7.2				9.4		15.2			
10	7.5				19.3	1.557	7.8				9.2		17.6			
11	6.8			42.8	18.0	1.270	7.4			0.05	9.4		16.6			
12	7.0	203	240		16.1	1.453	7.3	1.3	1.3		9.6		14.5	99.4	99.5	
13	7.1				13.5	1.488	7.5				9.9		11.9			
14	7.2				14.7	1.470	7.4				9.8		12.8			
15	6.9				16.5	1.454	7.2				9.7		13.6			
16	6.9				16.2	1.521	7.2				9.7		13.9			
17	6.8			35.8	18.2	1.461	7.3			0.04	9.2		16.3			
18	6.9				14.9	1.382	7.3				10.0		14.2			
19	6.9	256	304		16.0	1.497	7.3	1.9	1.3		10.0		13.1	99.3	99.6	
20	6.9				15.8	1.416	7.3				9.8		12.7			
21	6.9				15.7	1.404	7.2				9.7		13.7			
22	6.8			30.2	16.0	1.457	7.3			0.02	9.8		13.0			
23	6.9				15.2	1.445	7.3				10.2		12.5			
24	6.9	195	206		16.4	1.480	7.2	1.9	1.5		9.8		13.4	99.0	99.3	
25	6.9				14.1	1.514	7.3				10.1		13.2			
26	6.8				16.1	1.433	7.2				10.2		12.1			
27	6.9				16.0	1.623	7.2				9.8		13.0			
28	6.9				15.3	1.600	7.2				10.1		12.8			
29	6.9				14.0	1.392	7.2				10.3		12.2			
30	7.0				14.6	1.433	7.5				10.1		13.0			
Total						44.659										
Avg		244	380	37.4	15.7	1.499		1.8	1.6	0.04	9.8	0.0	13.6	99.3	99.5	
Min	6.8	195	206	30.2	13.1	1.270	7.2	1.3	1.3	0.02	9.2	0.0	11.9	99.0	99.3	
Max	7.5	320	768	42.8	19.3	1.909	7.8	1.9	2.3	0.05	10.3	0.0	17.6	99.4	99.7	

MONTHLY EFF MONITORING				QUARTERLY EFF MONITORING				MONTHLY INF MONITORING		
DATE	Phosphorus mg/L	TKN mg/L	Nitrite+Nitrate mg/L	Oil & Grease mg/L	TR. Cadmium mg/L	Selenium mg/L	Hardness mg/L	Phosphorus mg/L	TKN mg/L	Nitrite+Nitrate mg/L
1										
2										
3	2.4	2.8	31.5					4.3	46.9	< 0.10
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
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25										
26										
27										
28										
29										
30										
Total	2.4	2.8	31.5					4.3	46.9	< 0.10
Avg	2.4	2.8	31.5					4.3	46.9	< 0.10
Min	2.4	2.8	31.5					4.3	46.9	< 0.10
Max	2.4	2.8	31.5					4.3	46.9	< 0.10

OPERATIONAL CONTROLS/LABORATORY TEST REQUIRED FOR "ACTIVATED SLUDGE" PROCESSES

DATE	SLUDGE DISP. LBS. DRY WEIGHT	#1 Aeration Basin, O-Ditch, Etc.				#2 Aeration Basin, O-Ditch, Etc.				*Weather Conditions		
		MIXED LIQUOR				MIXED LIQUOR				Outside * Ambient Temp ° F	*RAIN Inches	Time
		* DO mg/l	** MLSS mg/l	*Settleability *30 min ml	Temp ° C	* DO mg/l	** MLSS mg/l	*Settleability *30 min ml	Temp ° C			
1		4.9	5,490	720	14.5	5.3	4,700	600	15.2	42	0	7:30
2		3.4	4,280	620	14.2	6.4	5,340	800	14.0	41	0	7:30
3	6,906	4.7	3,970	470	13.2	6.4	5,810	820	13.6	37	0	7:30
4	4,323	4.1	5,640	790	12.8	5.4	4,350	570	13.0	33	0	7:30
5	1,441	3.1	5,930	830	14.8	4.2	4,230	480	14.9	35	0	7:30
6		3.6	5,510	750	13.3	4.3	4,910	580	13.7	37	0	7:30
7		3.0	4,920	700	13.5	3.1	5,450	790	13.7	40	0	7:30
8		1.6	5,010	600	15.0	1.1	6,020	780	15.1	44	0	7:30
9	5,284	1.4	4,660	540	15.5	1.3	5,190	700	15.8	50	0	7:30
10	5,524	1.2	4,510	500	17.6	1.2	5,120	680	17.9	62	0	7:30
11	6,755	2.3	4,900	550	16.8	1.3	4,550	580	16.7	52	0.1	7:30
12	8,108	1.7	4,590	610	14.3	2.6	4,480	610	14.7	46	0	7:30
13		4.4	4,000	500	12.9	3.7	4,770	670	13.1	37	0	7:30
14		3.9	4,540	610	13.5	2.8	4,730	630	13.8	47	0	7:30
15		2.1	4,890	630	13.3	1.4	4,840	670	13.8	40	0	7:30
16		1.5	4,710	600	13.7	1.2	4,600	610	14.0	43	0	7:30
17		1.1	4,870	600	16.0	1.1	4,570	650	16.2	62	0	7:30
18		1.6	4,470	650	14.0	1.5	4,480	600	14.2	39	0	7:30
19		2.1	4,680	720	12.8	1.8	4,840	600	13.3	26	0	7:30
20		2.7	5,230	760	12.6	3.0	4,150	430	13.1	41	0	7:30
21		2.0	5,140	710	13.7	2.8	4,640	640	13.9	48	0	7:30
22		1.8	5,120	710	12.9	1.9	4,890	700	12.9	35	0	7:30
23	5,164	1.8	4,570	700	12.2	1.4	4,980	750	12.4	32	0	7:30
24	5,605	1.9	3,670	600	14.2	1.2	5,360	790	14.6	62	0	7:30
25		1.5	4,400	530	12.6	1.7	5,260	760	13.0	41	0.7	7:30
26		2.4	4,380	650	11.8	2.2	5,180	800	11.9	30	0	7:30
27		1.4	3,620	650	12.9	1.3	5,170	800	13.0	47	0	7:30
28		1.3	4,340	650	12.8	1.2	5,400	800	13.1	39	0	7:30
29	6,755	1.3	4,460	660	12.1	1.5	5,300	810	12.1	33	0	7:30
30	6,755	1.3	5,130	730	12.8	1.2	4,980	750	13.1	40	0	7:30

COMMENTS:

TESTS PERFORMED BY (PRINT) John Hornback	SIGNATURE 	PHONE # (573)365-0455	DATE 12/7/2021
REPORT APPROVED BY (PRINT) Gary Hutchcraft	SIGNATURE 	PHONE # (573)365-0455	DATE 12/7/2021

*Required Daily (Monday - Friday)

**Required 1/week

State of Missouri
Department of Natural Resources
National Pollutant Discharge Elimination System (NPDES)
Discharge Monitoring Report (DMR)

Central Field Operations
P O Box 176
Jefferson City, MO, 65102

Permit Number	Outfall Number
MO0103241	001M
Monitoring Period	
11/1/21	11/30/21
NQDI:	*****

Parameters	Reporting Requirements			Unit	Reporting Requirements		Unit
Flow, in conduit or thru treatment plant	*****	*****	*****	*****	1.909	1.499	Mgal/d
Mon. Location: End of Pipe	*****	*****	*****		Daily Max.: Monitoring Required	Monthly Avg.: Monitoring Required	
Sample Type: Total Measured							
Frequency: Daily							
BOD, 5-day, 20 deg. C	*****	1.9	1.8	mg/L	*****	*****	*****
Mon. Location: End of Pipe	*****	Weekly Avg.: 45	Monthly Avg.: 30		*****	*****	
Sample Type: 24 Hour Composite							
Frequency: Weekly							
Total Suspended Solids (TSS)	*****	2.3	1.6	mg/L	*****	*****	*****
Mon. Location: End of Pipe	*****	Weekly Avg.: 45	Monthly Avg.: 30		*****	*****	
Sample Type: 24 Hour Composite							
Frequency: Weekly							
Phosphorus, total (as P)	2.4	*****	2.4	mg/L	*****	*****	*****
Mon. Location: End of Pipe	Daily Max.: Monitoring Required	*****	Monthly Avg.: Monitoring Required		*****	*****	
Sample Type: 24 Hour Composite							
Frequency: Monthly							
Nitrogen, Kjeldahl, total (as N)	2.8	*****	2.8	mg/L	*****	*****	*****
Mon. Location: End of Pipe	Daily Max.: Monitoring Required	*****	Monthly Avg.: Monitoring Required		*****	*****	
Sample Type: 24 Hour Composite							
Frequency: Monthly							
Nitrite plus nitrate total (as N)	31.5	*****	31.5	mg/L	*****	*****	*****
Mon. Location: End of Pipe	Daily Max.: Monitoring Required	*****	Monthly Avg.: Monitoring Required		*****	*****	
Sample Type: 24 Hour Composite							
Frequency: Monthly							
Nitrogen, ammonia total (as N)	0.05	*****	0.04	mg/L	*****	*****	*****
Mon. Location: End of Pipe	Daily Max.: Monitoring Required	*****	Monthly Avg.: Monitoring Required		*****	*****	
Sample Type: 24 Hour Composite							
Frequency: Weekly							

Lake of the Ozarks Regional
 WWTP 1
 #3 Anderson Road
 LAKE OZARK, MO. Miller

State of Missouri
 Department of Natural Resources
 National Pollutant Discharge Elimination System (NPDES)
 Discharge Monitoring Report (DMR)

Central Field Operations
 P O Box 176
 Jefferson City, MO, 65102

pH	6.8	*****	7.5	SU	*****	*****	*****
Mon. Location.: End of Pipe	Minimum:6.0	*****;*****	Maximum:9.0		*****;*****	*****;*****	
Sample Type: Grab							
Frequency: Weekly							
BOD, 5-day, percent removal	*****	*****	99.0	%	*****	*****	*****
Mon. Location.: End of Pipe	*****;*****	*****;*****	Monthly Avg. Min.:85		*****;*****	*****;*****	
Sample Type: Calculated							
Frequency: Monthly							
Suspended Solids, percent removal	*****	*****	99.3	%	*****	*****	*****
Mon. Location.: End of Pipe	*****;*****	*****;*****	Monthly Avg. Min.:85		*****;*****	*****;*****	
Sample Type: Calculated							
Frequency: Monthly							
Comments:							

Lake of the Ozarks Regional
WWTP 1
#3 Anderson Road
LAKE OZARK, MO, Miller

State of Missouri
Department of Natural Resources
National Pollutant Discharge Elimination System (NPDES)
Discharge Monitoring Report (DMR)

Central Field Operations
P O Box 178
Jefferson City, MO, 65102

Permit Number	Outfall Number
MO0103241	INFIM
Monitoring Period	
11/1/21	11/30/21
NDB:	*****

Parameters	Reporting Requirements			Unit	Reporting Requirements			Unit
BOD, 5-day, 20 deg. C	*****	*****	244	mg/L	*****	*****	*****	
Mon. Location.: Influent	*****;*****	*****;*****	Monthly Avg.: Monitoring Required		*****;*****	*****;*****		
Sample Type: 24 Hour Composite								
Frequency: Monthly								
Total Suspended Solids (TSS)	*****	*****	380	mg/L	*****	*****	*****	
Mon. Location.: Influent	*****;*****	*****;*****	Monthly Avg.: Monitoring Required		*****;*****	*****;*****		
Sample Type: 24 Hour Composite								
Frequency: Monthly								
Nitrogen, ammonia total (as N)	42.8	*****	37.4	mg/L	*****	*****	*****	
Mon. Location.: Influent	Daily Max.: Monitoring Required	*****;*****	Monthly Avg.: Monitoring Required		*****;*****	*****;*****		
Sample Type: 24 Hour Composite								
Frequency: Monthly								
Phosphorus, total (as P)	4.3	*****	4.3	mg/L	*****	*****	*****	
Mon. Location.: Influent	Daily Max.: Monitoring Required	*****;*****	Monthly Avg.: Monitoring Required		*****;*****	*****;*****		
Sample Type: 24 Hour Composite								
Frequency: Monthly								
Nitrogen, Kjeldahl, total (as N)	46.9	*****	46.9	mg/L	*****	*****	*****	
Mon. Location.: Influent	Daily Max.: Monitoring Required	*****;*****	Monthly Avg.: Monitoring Required		*****;*****	*****;*****		
Sample Type: 24 Hour Composite								
Frequency: Monthly								
Nitrite plus nitrate total (as N)	<0.10	*****	<0.10	mg/L	*****	*****	*****	
Mon. Location.: Influent	Daily Max.: Monitoring Required	*****;*****	Monthly Avg.: Monitoring Required		*****;*****	*****;*****		
Sample Type: 24 Hour Composite								
Frequency: Monthly								

Comments:

Lake of the Ozarks Regional
WWTP 1
#3 Anderson Road
LAKE OZARK, MO, Miller

State of Missouri
Department of Natural Resources
National Pollutant Discharge Elimination System (NPDES)
Discharge Monitoring Report (DMR)

Central Field Operations
P O Box 178
Jefferson City, MO, 65102

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

eSignature
Gary Hutchcraft

Submission Date
December 7, 2021

User Phone Number
(573)365-0455

The following abbreviations have been used: Unicast, Cyclic, Frequent, and

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**Alliance Water
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Inc.**

**206 S. Keene
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Columbia, MO
65201**

(573)874-8080

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Professional Water and Wastewater Operations

REPORT OF OPERATIONS

**LAKE OZARK/OSAGE BEACH
Joint Wastewater Treatment Plant No. 1**

Month of December 2021

Submitted by Alliance Water Resources, Inc. for the

January 2022

Joint Sewer Board Meeting

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SUMMARY OF FACILITY OPERATION

The Lake Ozark/Osage Beach Joint WWTP produced superior effluent quality throughout the month and was in full compliance with effluent limitations established in NPDES Permit No.MO-0103241. No leaks, no spills, and no unauthorized releases to waters of the state. No work related lost time accidents have occurred during the month.

Detailed information relating to plant performance and operations is presented as follows.

PLANT EFFLUENT QUALITY

	BOD mg/l	TSS mg/l	pH	E.coli Colonies/100 ml	Coliform	Ammonia as N mg/L	O&G mg/L
Monthly/Quarterly Avg	2.2	1.3	N/A	0.0		0.04	
Peak Day	2.6	1.6	7.6	0.0		0.06	
Percent Removal	99.2	99.6	N/A	N/A		N/A	N/A

NPDES EFFLUENT LIMITATIONS

	BOD mg/l	TSS mg/l	pH	E.coli Colonies/100 ml	Coliform	Ammonia as N mg/L	O&G mg/L
Monthly/Quarterly Avg	30	30	6-9	126		3.1	10
Weekly Average	45	45		630			
Daily Max				N/A		12.1	15

PLANT HYDRAULIC AND ORGANIC LOADING

The average daily influent flow for the month was 0.979 MGD or 33% of Permitted flow with Lake Ozark contributing 18% of the total flow and Osage Beach contributing 82%. Daily influent flow BOD and TSS data is presented in Table A. Daily flow for the month and rainfall are shown in Figure 2. A three-year flow history for each of the two cities is presented in Table B.

Organic loading for the month was 66537 pounds of BOD.

BIOSOLIDS APPLICATION AND INVENTORY

Plant personnel land applied 16 tanker loads of bio-solids during the month equivalent to a total of 57,600 gallons and 24,139 pounds dry weight solids.

485,577 pounds of dry weight solids have been land applied year to date.

Bio-solids inventory in the storage tanks at the end of the month was 292,500 gallons with a level of 4.0 feet in Tank 1 and 2.5 feet in Tank 2.

WASTEHAULERS

The plant received 27 loads of septage during the month totaling 62,000 gallons.

WWTP OPERATIONS

- Decanting digesters and wasting weekly.
- Normal operations.

WWTP MAINTENANCE AND REPAIR

- Performed routine maintenance throughout the month as per Antero Maintenance Data Management schedule. (New version of Operator 10 Software)
- When we started up the electric heater in the RAS valve room it started smoking bad, so we called Catalyst Electric because we thought it was something electrical. They came out on the 10th of December and determined that it wasn't electrical and was probably caused by hydrogen sulfide gas. The heater is working but won't shut off automatically.
- Haynes Equipment came in on the 21st of December to look at what it would take to get the automatics of the ducking skimmer arms for Clarifiers 1 & 2 going again. He contacted me back with a list of components/controls that would be needed and an estimated labor cost of completing the project on the 27th. The components were purchased from the local CED store for \$674.00 with a labor cost of around \$2,500.00 from Haynes. They are planning on coming in sometime in late January to complete the project.
- We ordered the parts for Bar Screen #2 that Catalyst Electric told us to and when we replaced them it didn't get it going, so we called them back in to assist in troubleshooting it. They came in on the 28th of December and determined that the thermal overload relay was bad. We ordered a replacement on the 29th which should be in sometime the first week of January. While they were here, they checked out the heater in the RAS valve room again and said the thermostat was bad. We tried to get one but had no luck, so we asked them to try and locate one since they are the ones that sold it to us originally and installed it new just a couple years ago and they have had to replace the thermostat once already back on December 29, 2020.

SAFETY

- We conducted our monthly Safety Meeting on Chlorine Safety for Wastewater & Water Operations, Handling Sodium Hypochlorite, Housekeeping Awareness, Ladder Safety: Safe Use & Chainsaw Safety on the 7th of December

REGULATORY AGENCY, INSPECTION AND REPORTS

- We filled out the new EDMR on the EPA MoGEM website on the 4th of January.

MISCELLANEOUS AND RECOMMENDATIONS

TABLE A
LAKE OZARK/OSAGE BEACH WWTP

MONTH OF December 2021

DATE		FLOW					BOD 5 MG/L			TSS MG/L		
	RAIN FALL IN.	LO mgd	OB mgd	COMB mgd	% LO	% OB	LO mg/l	OB mg/l	COMB mg/l	LO mg/l	OB mg/l	COMB mg/l
1-Dec	0	0.171	0.783	0.954	17.9	82.1						
2-Dec	0	0.164	0.817	0.981	16.7	83.3						
3-Dec	0	0.182	0.785	0.967	18.8	81.2	255	258	228	162	238	352
4-Dec	0	0.183	0.825	1.008	18.2	81.8						
5-Dec	0.05	0.162	0.822	0.984	16.5	83.5						
6-Dec	0	0.173	0.808	0.981	17.6	82.4						
7-Dec	0	0.167	0.768	0.935	17.9	82.1						
8-Dec	0	0.150	0.737	0.887	16.9	83.1						
9-Dec	0	0.187	0.757	0.944	19.8	80.2						
10-Dec	0	0.182	0.760	0.942	19.3	80.7	210	210	348	152	150	378
11-Dec	0.7	0.214	0.898	1.112	19.2	80.8						
12-Dec	0	0.177	0.835	1.012	17.5	82.5						
13-Dec	0	0.170	0.800	0.970	17.5	82.5						
14-Dec	0	0.172	0.792	0.964	17.8	82.2						
15-Dec	0	0.204	0.847	1.051	19.4	80.6						
16-Dec	0	0.180	0.858	1.038	17.3	82.7						
17-Dec	0	0.172	0.848	1.020	16.9	83.1	198	190	275	140	120	386
18-Dec	0.4	0.176	0.890	1.066	16.5	83.5						
19-Dec	0	0.166	0.869	1.035	16.0	84.0						
20-Dec	0	0.146	0.819	0.965	15.1	84.9						
21-Dec	0	0.173	0.816	0.989	17.5	82.5						
22-Dec	0	0.149	0.737	0.886	16.8	83.2	195	215	210	178	160	244
23-Dec	0	0.172	0.737	0.909	18.9	81.1						
24-Dec	0	0.155	0.779	0.934	16.6	83.4						
25-Dec	0	0.138	0.732	0.870	15.9	84.1						
26-Dec	0	0.129	0.615	0.744	17.3	82.7						
27-Dec	0	0.147	0.735	0.882	16.7	83.3						
28-Dec	1.0	0.174	0.815	0.989	17.6	82.4						
29-Dec	0.05	0.222	1.077	1.299	17.1	82.9	265	225	253	220	196	226
30-Dec	0.05	0.196	0.832	1.028	19.1	80.9						
31-Dec	0	0.164	0.848	1.012	16.2	83.8						
SUM	2.3	5.317	25.041	30.358								
AVG		0.172	0.808	0.979	18	82	225	220	263	170	173	317
NOTE: BOLD PRINT INDICATES WEEKEND DAYS												

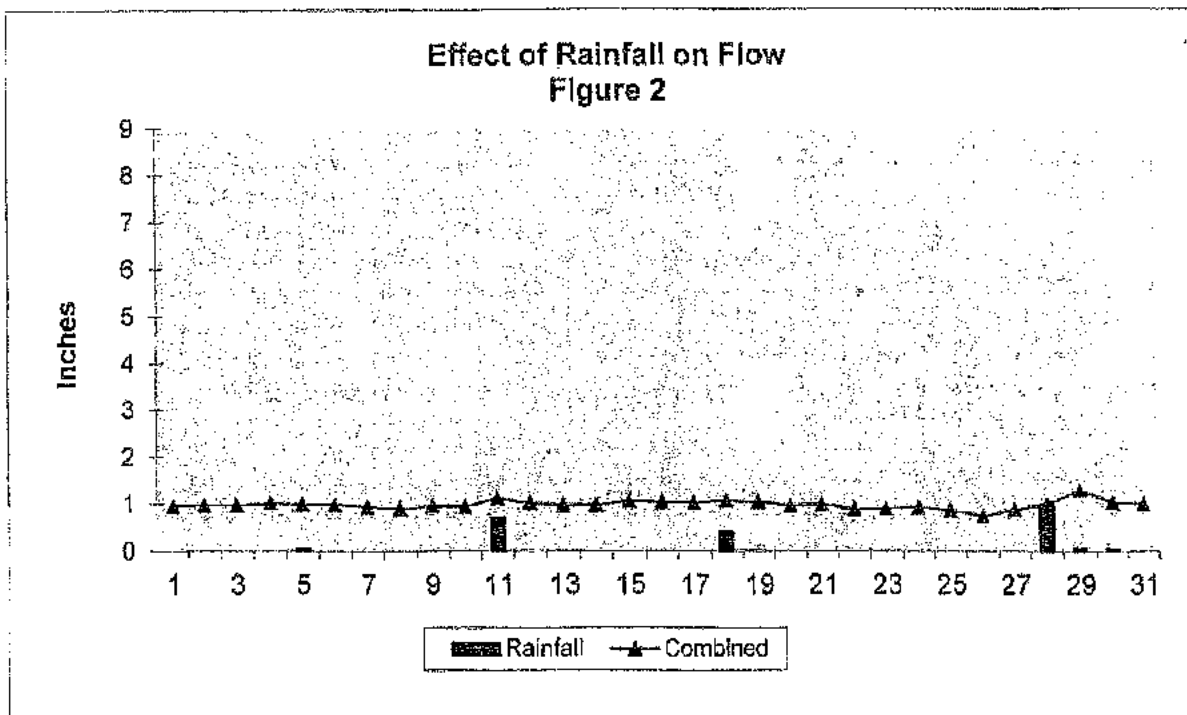
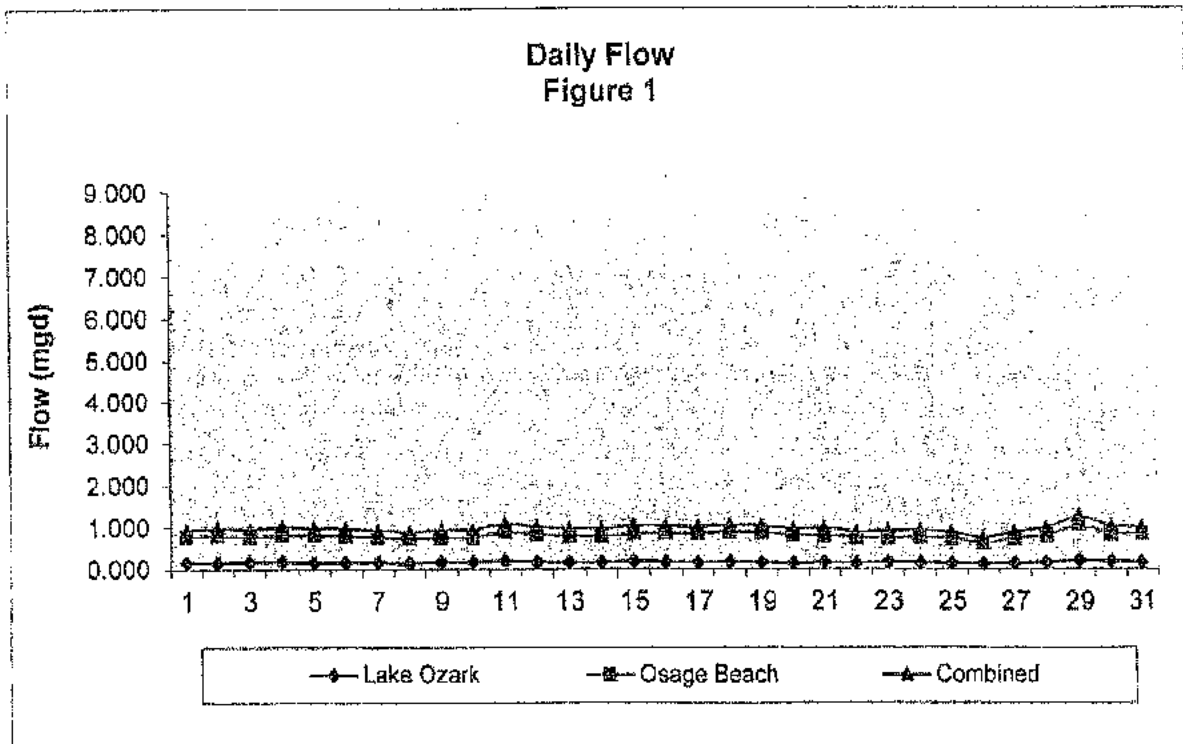


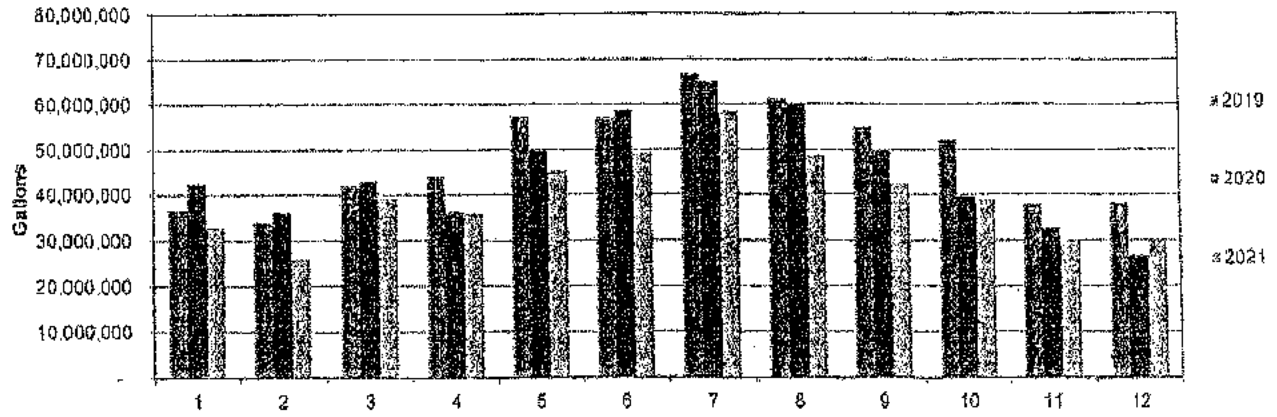
TABLE B
JOINT SEWER BOARD
Monthly Flows

<u>2019</u>	<u>RAINFALL</u>	<u>OSAGE BEACH</u>		<u>LAKE OZARK</u>		<u>TOTAL</u>	<u>%</u>
January	2.1	32,085,000	87%	4,708,000	13%	36,793,000	100%
February	4.4	29,492,000	86%	4,650,000	14%	34,142,000	100%
March	6.3	36,210,000	86%	5,876,000	14%	42,086,000	100%
April	4.1	37,991,000	86%	6,135,000	14%	44,126,000	100%
May	9.9	49,124,000	85%	8,333,000	15%	57,457,000	100%
June	6.0	49,051,000	86%	7,864,000	14%	56,915,000	100%
July	4.8	57,666,000	86%	9,132,000	14%	66,798,000	100%
August	6.0	53,074,000	87%	8,215,000	13%	61,289,000	100%
September	3.5	47,732,000	87%	7,165,000	13%	54,897,000	100%
October	11.1	44,971,000	86%	7,194,000	14%	52,165,000	100%
November	3.5	33,141,000	87%	4,779,000	13%	37,920,000	100%
December	1.8	33,575,000	88%	4,708,000	12%	38,283,000	100%
	63.2	504,112,000	86%	78,759,000	13%	582,871,000	100%

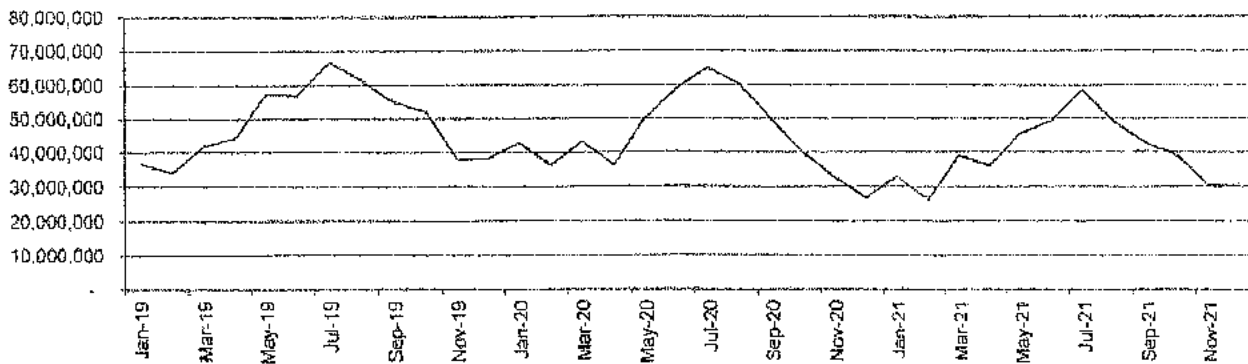
<u>2020</u>	<u>RAINFALL</u>	<u>OSAGE BEACH</u>		<u>LAKE OZARK</u>		<u>TOTAL</u>	<u>%</u>
January	7.7	36,806,000	86%	5,780,000	14%	42,586,000	100%
February	3.6	31,279,000	86%	4,986,000	14%	36,265,000	100%
March	6.1	37,286,000	86%	5,888,000	14%	43,174,000	100%
April	5.2	31,967,000	88%	4,324,000	12%	36,291,000	100%
May	5.3	43,538,000	87%	6,443,000	13%	49,981,000	100%
June	4.8	50,936,000	87%	7,780,000	13%	58,716,000	100%
July	6.9	56,437,000	87%	8,616,000	13%	65,053,000	100%
August	2.3	52,449,000	87%	7,883,000	13%	60,332,000	100%
September	8.4	42,235,000	85%	7,636,000	15%	49,871,000	100%
October	5.4	33,173,000	84%	6,448,000	16%	39,621,000	100%
November	4.3	27,630,000	84%	5,102,000	16%	32,732,000	100%
December	1.3	22,749,000	85%	3,949,000	15%	26,698,000	100%
	61.3	466,485,000	86%	74,835,000	14%	541,320,000	100%

<u>2021</u>	<u>RAINFALL</u>	<u>OSAGE BEACH</u>		<u>LAKE OZARK</u>		<u>TOTAL</u>	<u>%</u>
January	6.0	28,107,000	85%	4,855,000	15%	32,962,000	100%
February	3.0	22,136,000	85%	4,048,000	15%	26,184,000	100%
March	4.0	32,848,000	84%	6,450,000	16%	39,298,000	100%
April	5.2	30,179,000	84%	5,792,000	16%	35,971,000	100%
May	5.2	37,964,000	84%	7,479,000	16%	45,443,000	100%
June	8.0	41,695,000	85%	7,390,000	15%	49,085,000	100%
July	6.9	49,378,000	85%	9,000,000	15%	58,378,000	100%
August	1.8	41,691,000	85%	7,211,000	15%	48,902,000	100%
September	3.1	36,185,000	85%	6,306,000	15%	42,491,000	100%
October	6.0	32,925,000	85%	5,987,000	15%	38,912,000	100%
November	0.8	25,192,000	83%	5,025,000	17%	30,217,000	100%
December	2.3	25,041,000	82%	5,317,000	18%	30,358,000	100%
	52.2	403,341,000	84%	74,860,000	16%	478,201,000	100%

Monthly Influent Flow
Figure 3A



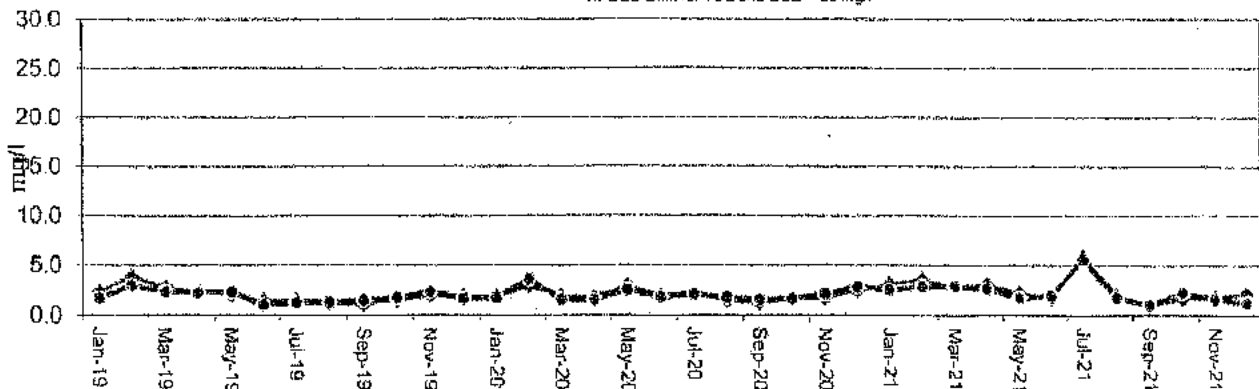
Monthly Influent Flow
Figure 3B



Effluent BOD/TSS
Figure 4

NPDES Limit for TSS and BOD = 30 mg/l

◆ BOD
■ TSS



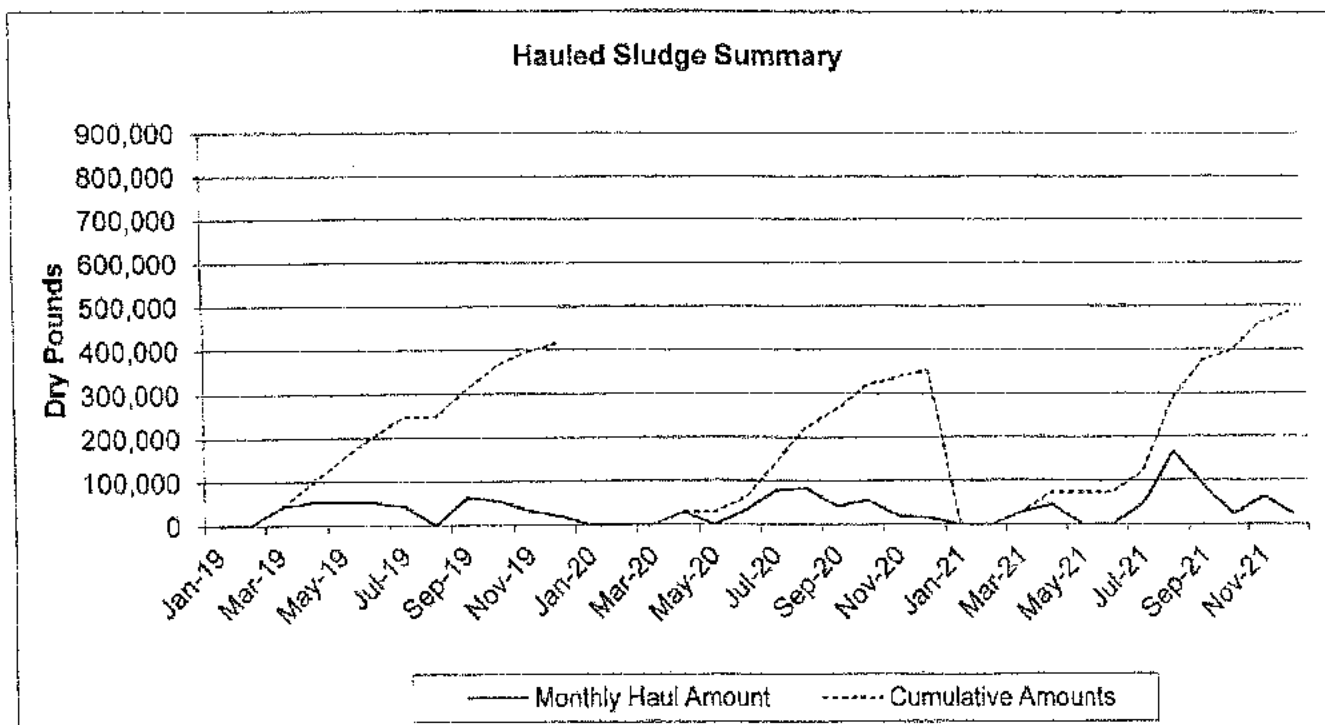
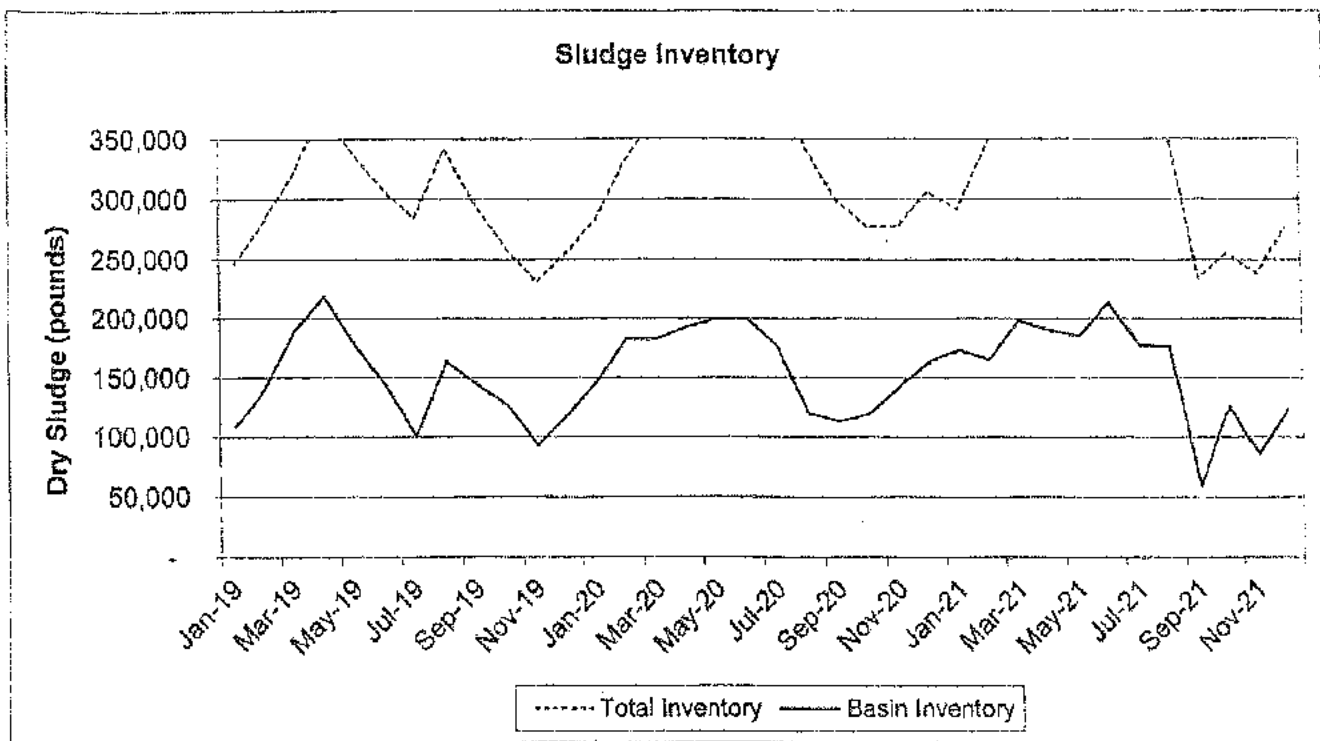
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	Hauled Sludge				
	Loads	Gallons	# Dry	% Solids	Annual Cumulative # Dry
Jan-19	0	-	0	3.4%	-
Feb-19	0	-	0	3.4%	-
Mar-19	35	133,200	43,139	3.8%	43,139
Apr-19	39	144,300	53,940	4.5%	97,079
May-19	49	181,300	54,865	3.8%	151,945
Jun-19	44	162,800	51,872	3.8%	203,817
Jul-19	37	135,900	43,533	3.8%	247,350
Aug-19	0	-	0	3.8%	247,350
Sep-19	58	214,600	62,487	3.8%	309,837
Oct-19	50	185,000	54,742	3.5%	364,579
Nov-19	29	107,300	31,529	3.5%	396,108
Dec-19	17	62,900	20,543	3.9%	416,651
Jan-20	0	-	0	3.9%	-
Feb-20	0	-	0	3.9%	-
Mar-20	0	-	0	3.9%	-
Apr-20	25	92,500	29,315	3.8%	29,315
May-20	0	-	0	3.8%	29,315
Jun-20	25	92,500	31,650	4.1%	60,965
Jul-20	59	235,300	77,268	3.8%	138,233
Aug-20	76	281,200	83,286	3.8%	221,529
Sep-20	38	140,500	41,527	3.5%	263,056
Oct-20	45	165,500	55,296	4.0%	318,352
Nov-20	15	55,500	19,255	3.5%	337,607
Dec-20	11	40,700	14,543	4.4%	352,150
Jan-21	0	-	0	4.4%	-
Feb-21	0	-	0	4.4%	-
Mar-21	23	85,100	26,893	4.1%	26,893
Apr-21	39	144,300	45,269	3.8%	72,162
May-21	0	-	0	3.8%	72,162
Jun-21	0	-	0	3.8%	72,162
Jul-21	40	144,000	47,375	3.9%	119,537
Aug-21	153	550,800	165,363	3.6%	284,900
Sep-21	32	331,200	87,225	3.2%	372,125
Oct-21	17	61,200	22,698	4.4%	394,823
Nov-21	46	165,500	63,621	4.6%	458,444
Dec-21	16	57,500	24,139	5.0%	482,583

Basin Depths				
Tank #1	Tank #2	AB #1	Basin Gallons	# Dry
5.0	3.5	0.0	382,500	108,452
6.0	5.0	0.0	485,000	140,362
6.0	7.0	0.0	585,000	189,462
5.5	7.5	0.0	585,000	218,575
6.5	5.0	0.0	585,000	177,036
7.0	3.0	0.0	480,000	143,381
3.0	4.0	0.0	315,000	100,397
5.5	5.0	0.0	517,500	164,003
7.0	4.0	0.0	485,000	144,134
7.5	2.0	0.0	427,500	126,499
3.5	3.5	0.0	315,000	92,853
6.0	2.0	0.0	360,000	118,148
6.0	4.0	0.0	450,000	145,367
6.5	6.0	0.0	552,500	182,959
5.5	7.0	0.0	552,500	182,959
6.0	7.5	0.0	607,500	192,529
6.0	8.0	0.0	630,000	199,660
6.0	7.0	0.0	585,000	200,228
6.0	7.0	0.0	585,000	177,054
5.0	4.0	0.0	405,000	119,953
4.0	4.5	0.0	352,500	113,245
6.0	3.0	0.0	360,000	119,563
5.0	6.0	0.0	485,000	143,111
4.5	5.5	0.0	450,000	164,112
7.0	3.5	0.0	472,500	173,589
5.0	5.0	0.0	450,000	165,132
6.0	7.0	0.0	585,000	198,549
6.0	7.5	0.0	607,500	190,552
6.0	7.0	0.0	585,000	185,398
7.0	8.0	0.0	675,000	213,921
5.0	7.0	0.0	540,000	177,683
7.0	6.0	0.0	585,000	176,693
2.0	3.0	0.0	225,000	59,257
3.5	4.0	0.0	337,500	125,173
3.0	2.0	0.0	225,000	65,442
4.0	2.5	0.0	292,500	122,581

Blanket Depths			MLSS Inventory		Blanket and MLSS Inventory		MLSS		Total Dry
Clart #1	Clart #2	Clart #3	MLSS AB #1	MLSS AB #2	Gallons	# Dry	% Solids	Sludge Inventory	
1.0	1.0	0.0	4,850	4,460	3,635,524	138,412	0.00457	245,574	
1.0	1.0	0.0	4,570	4,740	3,635,524	141,141	0.00466	281,503	
0.5	1.0	0.0	4,780	3,920	3,626,643	131,571	0.00435	321,093	
1.5	0.5	1.0	5,720	4,530	3,678,952	157,245	0.00513	375,923	
3.0	1.5	1.0	5,150	5,160	3,723,357	160,077	0.00516	337,113	
2.0	4.0	1.5	5,510	4,810	3,771,714	163,896	0.00521	307,267	
2.0	2.0	0.5	6,060	5,830	3,710,524	183,973	0.00585	284,370	
5.0	3.0	0.5	5,680	5,680	3,783,610	177,962	0.00567	341,988	
2.0	1.0	1.0	4,450	5,310	3,696,714	150,607	0.00489	294,741	
2.5	3.0	1.0	4,170	4,350	3,741,119	132,915	0.00436	258,414	
3.5	5.0	0.0	4,980	3,850	3,750,977	138,115	0.00442	230,998	
1.0	1.0	0.0	5,090	3,940	3,635,524	130,896	0.00452	256,044	
1.0	1.5	0.0	4,260	4,690	3,644,405	136,015	0.00448	282,382	
3.5	2.0	0.0	5,190	4,390	3,697,691	147,716	0.00479	330,676	
2.0	5.0	1.0	5,760	5,940	3,757,752	183,825	0.00585	366,784	
1.0	1.0	1.0	5,740	5,290	3,678,952	189,214	0.00552	351,742	
1.0	7.0	1.0	6,010	6,110	3,785,524	191,322	0.00606	390,961	
5.0	7.0	0.5	7,050	7,120	3,852,620	227,647	0.00709	427,975	
7.0	7.0	1.0	6,890	7,380	3,882,086	231,603	0.00714	408,656	
6.0	6.0	1.0	6,530	7,400	3,956,572	224,021	0.00697	343,974	
1.0	1.0	0.5	6,000	6,200	3,857,238	185,056	0.0061	295,304	
1.0	1.0	1.0	4,950	5,070	3,678,952	158,016	0.00615	277,576	
1.0	0.0	0.5	4,780	4,080	3,639,476	134,455	0.00443	277,576	
1.0	0.0	0.5	5,030	4,360	3,639,476	142,508	0.0047	305,520	
6.0	0.0	1.0	3,810	3,790	3,750,000	118,689	0.0038	292,077	
5.0	8.0	0.0	5,490	5,750	3,830,908	179,558	0.00582	344,600	
2.0	5.0	0.5	6,690	6,350	3,746,048	205,673	0.00588	404,122	
12.0	5.0	1.0	6,860	6,350	3,945,382	201,375	0.00612	391,857	
13.0	14.0	1.0	6,200	6,330	4,123,002	215,427	0.00627	400,825	
8.0	7.5	2.0	7,250	8,090	3,926,643	234,903	0.00717	448,824	
7.0	12.0	3.0	9,190	8,110	4,067,782	279,340	0.00823	457,007	
1.0	1.0	0.5	6,180	5,940	3,657,238	183,008	0.0060	359,701	
1.0	1.0	0.5	5,320	6,180	3,657,238	175,383	0.0058	234,640	
1.0	0.5	0.5	4,430	4,140	3,648,357	130,381	0.0043	255,654	
0.5	1.0	0.0	5,130	4,960	3,626,643	152,138	0.0050	238,580	
1.0	1.0	0.0	4,540	5,630	3,635,524	154,179	0.0051	276,759	

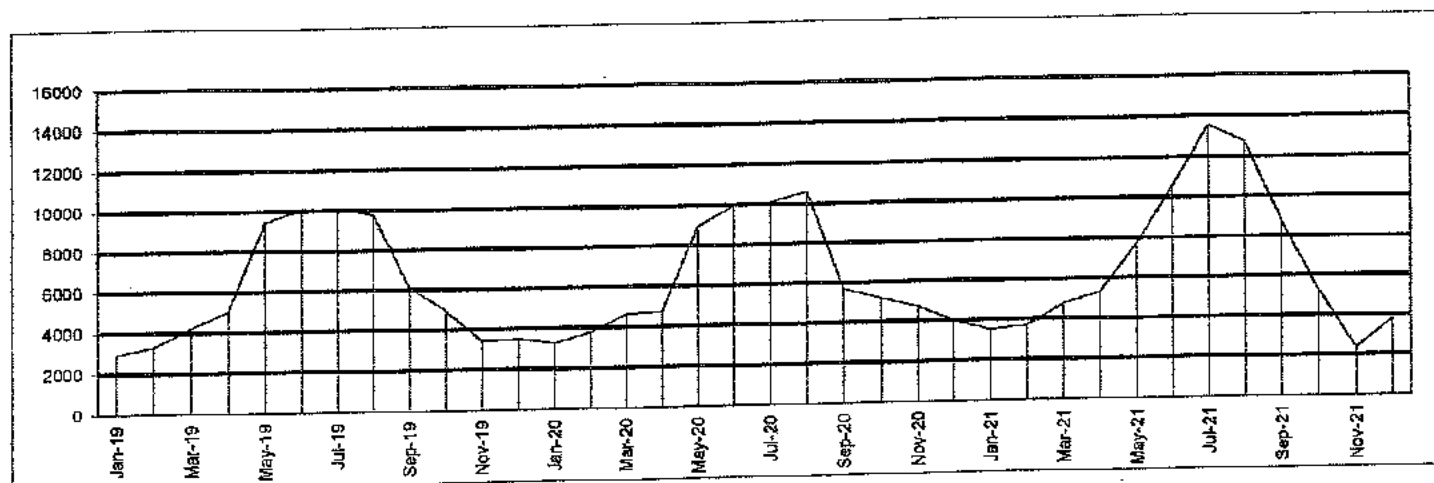
Accepted Septage	
Loads	Gallons
19	48,500
31	79,500
9	21,500
23	61,500
12	25,500
19	47,500
36	84,000
28	72,500
22	55,000
14	32,000
25	36,000
14	32,000
16	34,100
23	57,000
26	64,500
39	107,000
35	83,000
6	18,000
58	208,000
67	158,000
45	104,500
16	32,000
18	36,000
33	69,000
83	205,500
28	89,500
32	70,000
22	52,000
48	128,500
63	151,500
117	289,000
66	163,000
82	159,500
34	80,000
37	83,000
27	52,000



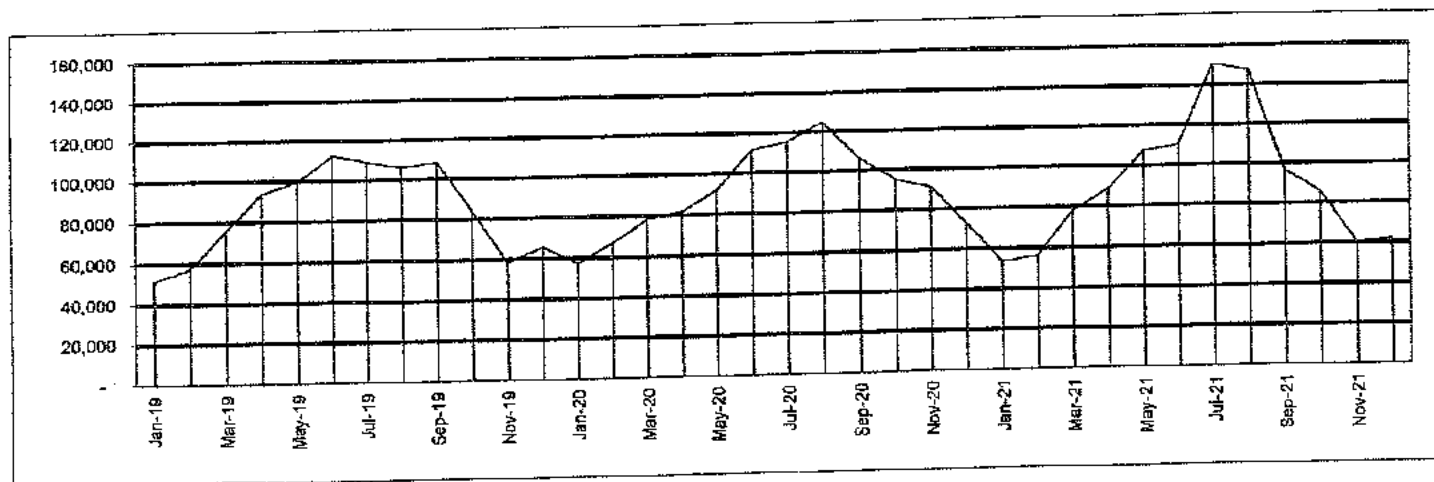
Electric Cost Kilowatts Used

Jan-19	2926	51,490
Feb-19	3295	57,450
Mar-19	4251	75,830
Apr-19	5014	93,570
May-19	9452	99,330
Jun-19	10074	112,400
Jul-19	10066	109,190
Aug-19	9784	106,020
Sep-19	6115	108,680
Oct-19	4920	83,790
Nov-19	3390	58,410
Dec-19	3482	65,660
Jan-20	3259	57,250
Feb-20	3760	66,830
Mar-20	4637	78,070
Apr-20	4741	81,780
May-20	8962	91,550
Jun-20	9959	111,680
Jul-20	10100	115,300
Aug-20	10619	124,800
Sep-20	5669	106,220
Oct-20	5155	94,870
Nov-20	4734	90,890
Dec-20	4009	73,020
Jan-21	3524	53,730
Feb-21	3696	56,370
Mar-21	4776	77,720
Apr-21	5281	88,390
May-21	7727	107,320
Jun-21	10610	110,130
Jul-21	13533	150,740
Aug-21	12737	147,810
Sep-21	8751	96,600
Oct-21	5233	85,530
Nov-21	2348	60,370
Dec-21	3776	62,100

Electric Cost



Kilowatts Used





MISSOURI DEPARTMENT OF NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL QUALITY
 Discharge Monitoring Report For Municipal Wastewater Treatment Plants

NAME OF FACILITY							LOCATION ADDRESS & CITY							COUNTY/REGION		
Lake of the Ozarks Regional WWTP #1							#3 Anderson Road							Miller/SWRO		
MONTH/YEAR		PERMIT NUMBER					OUTFALL NUMBER		TYPE TREATMENT FACILITY							
Dec-21		MO-0103241					#001		Oxidation Ditch/UV/Sludge Holding-sludge is land applied							
INFLUENT						EFFLUENT								% Removal		
DATE	pH UNITS	BOD mg/L	TSS mg/L	Ammonia as N mg/l	TEMP °C	FLOW MGD	pH UNITS	BOD mg/L	TSS mg/L	Ammonia as N mg/l	DO mg/L	E. coli COLFRM #/100 A/L	TEMP °C	BOD mg/L	TSS mg/L	
1	7.0			32.8	16.2	1.468	7.5			0.03	9.9		13.8			
2	7.0				15.3	1.523	7.4				9.9		13.7			
3	7.0	228	362		14.9	1.404	7.4	1.7	1.6		9.9		13.3	99.3	99.5	
4	7.2				13.9	1.462	7.6				10.0		11.9			
5	7.0				15.0	1.475	7.5				10.1		13.5			
6	7.3				13.5	1.396	7.6				10.1		12.1			
7	6.9				13.6	1.495	7.3				10.2		11.8			
8	6.9			55.1	14.2	1.378	7.3			0.06	10.4		11.4			
9	7.0				15.1	1.460	7.3				10.2		12.2			
10	6.6	348	378		15.5	1.433	7.3	1.8	1.4		9.8		13.1	99.5	99.6	
11	7.1				13.8	1.617	7.3				10.2		12.3			
12	6.9				13.3	1.536	7.3				10.4		11.4			
13	7.2				13.5	1.509	7.5				10.8		11.4			
14	6.9				14.3	1.375	7.2				10.3		12.3			
15	6.9			21.1	16.8	1.516	7.2			0.03	9.6		14.9			
16	6.9				13.9	1.458	7.3				10.1		13.5			
17	6.8	275	386		14.9	1.567	7.3	2.3	1.2		9.9		12.9	99.2	99.7	
18	7.0				12.8	1.636	7.3				10.2		11.1			
19	7.0				10.2	1.616	7.4				10.5		8.3			
20	6.6			31.4	13.3	1.556	7.2			0.01	10.5		10.6			
21	6.9				11.4	1.523	7.4				10.6		8.2			
22	6.9	210	244		12.8	1.507	7.2	2.6	1.1		10.8		9.7	98.8	99.5	
23	6.8				13.8	1.373	7.2				10.1		10.6			
24	6.8				14.7	1.468	7.3				9.7		12.1			
25	6.9				14.2	1.291	7.3				9.8		12.9			
26	7.0				12.8	1.219	7.3				10.1		11.9			
27	6.7			31.3	14.6	1.387	7.2			0.05	10.0		13.1			
28	6.9				13.1	1.391	7.2				10.1		12.2			
29	6.8	253	226		13.4	1.912	7.3	2.4	1.3		10.2		11.8	99.1	99.4	
30	6.8				13.6	1.578	7.3				10.2		11.7			
31	6.9				12.9	1.581	7.3				10.3		11.2			
Total						46.110										
Avg		263	317	34.3	13.8	1.487		2.2	1.3	0.04	10.2	0.0	12.0	99.1	99.6	
Min	6.6	210	226	21.1	10.2	1.219	7.2	1.7	1.1	0.01	9.6	0.0	8.2	98.8	99.4	
Max	7.3	348	386	55.1	16.8	1.912	7.6	2.6	1.6	0.06	10.8	0.0	14.9	99.5	99.7	

MONTHLY EFF MONITORING				QUARTERLY EFF MONITORING				MONTHLY INF MONITORING		
DATE	Phosphorus mg/L	TKN mg/L	Nitrite+Nitrate mg/L	Oil & Grease mg/L	TR. Cadmium mg/L	Selenium mg/L	Hardness mg/L	Phosphorus mg/L	TKN mg/L	Nitrite+Nitrate mg/L
1										
2										
3										
4										
5										
6										
7										
8	2.6	1.4	13.3					5.4	< 0.10	46.5
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										
31										
Total	2.6	1.4	13.3					5.4	< 0.10	46.5
Avg	2.6	1.4	13.3					5.4	< 0.10	46.5
Min	2.6	1.4	13.3					5.4	< 0.10	46.5
Max	2.6	1.4	13.3					5.4	< 0.10	46.5

OPERATIONAL CONTROLS/LABORATORY TEST REQUIRED FOR "ACTIVATED SLUDGE" PROCESSES

DATE	SLUDGE DISP. LBS. DRY WEIGHT	#1 Aeration Basin, O-Ditch, Etc.				#2 Aeration Basin, O-Ditch, Etc.				*Weather Conditions		
		MIXED LIQUOR				MIXED LIQUOR				*Outside Ambient Temp ° F	*RAIN Inches	Time
		* DO mg/l	** MLSS mg/l	*Settleability		* DO mg/l	** MLSS mg/l	*Settleability				
				*30 min ml	Temp ° C			*30 min ml	Temp ° C			
1	3,963	1.2	5,150	750	13.6	1.2	4,680	740	13.7	41	0	7:30
2		1.3	5,780	800	13.7	1.6	4,720	650	13.9	51	0	7:30
3		1.1	5,360	750	13.1	1.2	4,590	650	13.5	41	0	7:30
4		1.5	5,430	770	13.1	1.9	4,690	680	13.8	42	0	7:30
5		1.6	5,380	760	13.7	1.9	4,710	670	13.9	47	0.05	7:30
6		1.2	5,090	760	12.7	1.2	4,920	720	13.1	36	0	7:30
7		2.0	4,720	750	11.5	1.6	5,210	760	11.7	35	0	7:30
8		3.0	4,420	600	11.0	1.7	5,170	780	11.1	30	0	7:30
9		2.0	4,620	650	12.6	1.4	5,150	780	12.6	47	0	7:30
10		1.2	4,300	700	12.9	1.2	5,560	800	13.2	45	0	7:30
11		1.2	4,940	750	12.1	1.4	5,370	770	12.5	38	0.7	7:30
12		2.0	4,940	770	11.3	1.8	5,480	760	11.6	31	0	7:30
13		1.3	4,690	630	10.9	1.3	5,500	830	11.9	32	0	7:30
14	10,088	1.6	4,320	660	12.3	1.3	5,300	800	12.5	43	0	7:30
15	10,088	1.0	4,800	600	15.0	1.0	5,580	780	15.2	66	0	7:30
16		1.3	4,860	700	13.4	1.3	5,280	760	13.8	46	0	7:30
17		1.1	4,910	730	12.8	1.2	5,050	750	13.1	42	0	7:30
18		2.0	5,250	740	11.9	1.9	5,190	750	12.1	38	0.4	7:30
19		2.3	5,180	760	10.1	2.5	5,140	800	10.6	25	0	7:30
20		2.1	5,270	800	10.6	1.7	5,250	800	11.4	26	0	7:30
21		3.2	5,140	790	9.6	3.1	5,400	800	10.3	28	0	7:30
22		2.7	5,090	800	9.8	1.3	5,670	850	10.3	28	0	7:30
23		1.7	5,080	800	10.7	1.1	5,120	800	11.0	35	0	7:30
24		1.3	5,580	800	12.4	1.6	5,170	700	12.5	55	0	7:30
25		1.1	5,430	800	13.2	1.6	4,710	700	13.5	55	0	7:30
26		1.5	5,520	800	11.8	1.9	4,900	700	12.1	38	0	7:30
27		0.9	5,280	800	13.1	1.0	4,900	700	13.3	56	0	7:30
28		0.9	5,510	770	12.1	1.0	4,680	700	12.4	42	1.0	7:30
29		0.9	4,940	750	12.2	1.2	5,030	760	12.2	40	0.05	7:30
30		1.1	4,540	730	12.0	1.1	5,520	800	12.0	42	0.05	7:30
31		1.1	4,540	700	11.3	1.2	5,630	800	11.4	35	0	7:30

COMMENTS:

TESTS PERFORMED BY (PRINT)	SIGNATURE	PHONE #	DATE
John Hornback		(573)365-0455	1/4/2022
REPORT APPROVED BY (PRINT)	SIGNATURE	PHONE #	DATE
Gary Hutchcraft		(573)365-0455	1/4/2022

*Required Daily (Monday / Friday)

**Required 1/week

State of Missouri
Department of Natural Resources
National Pollutant Discharge Elimination System (NPDES)
Discharge Monitoring Report (DMR)

Permit Number	Outfall Number
MO00103241	001M
Monitoring Period	
12/1/21	12/31/21
NODD:	*****

Parameters	Reporting Requirements			Unit	Reporting Requirements		Unit
Flow, in conduit or thru treatment plant	*****	*****	*****	*****	1.912	1.487	Mgal/d
Mon. Location.: End of Pipe	*****;*****	*****;*****	*****;*****		Daily Max.:Monitoring Required	Monthly Avg.:Monitoring Required	
Sample Type: Total Measured							
Frequency: Daily							
BOD, 5-day, 20 deg. C	*****	2.6	2.2	mg/L	*****	*****	*****
Mon. Location.: End of Pipe	*****;*****	Weekly Avg.:45	Monthly Avg.:30		*****;*****	*****;*****	
Sample Type: 24 Hour Composite							
Frequency: Weekly							
Total Suspended Solids (TSS)	*****	1.6	1.3	mg/L	*****	*****	*****
Mon. Location.: End of Pipe	*****;*****	Weekly Avg.:45	Monthly Avg.:30		*****;*****	*****;*****	
Sample Type: 24 Hour Composite							
Frequency: Weekly							
Phosphorus, total (as P)	2.6	*****	2.6	mg/L	*****	*****	*****
Mon. Location.: End of Pipe	Daily Max.:Monitoring Required	*****;*****	Monthly Avg.:Monitoring Required		*****;*****	*****;*****	
Sample Type: 24 Hour Composite							
Frequency: Monthly							
Nitrogen, Kjeldahl, total (as N)	1.4	*****	1.4	mg/L	*****	*****	*****
Mon. Location.: End of Pipe	Daily Max.:Monitoring Required	*****;*****	Monthly Avg.:Monitoring Required		*****;*****	*****;*****	
Sample Type: 24 Hour Composite							
Frequency: Monthly							
Nitrite plus nitrate total (as N)	13.3	*****	13.3	mg/L	*****	*****	*****
Mon. Location.: End of Pipe	Daily Max.:Monitoring Required	*****;*****	Monthly Avg.:Monitoring Required		*****;*****	*****;*****	
Sample Type: 24 Hour Composite							
Frequency: Monthly							
Nitrogen, ammonia total (as N)	0.06	*****	0.04	mg/L	*****	*****	*****
Mon. Location.: End of Pipe	Daily Max.:12.1	*****;*****	Monthly Avg.:3.1		*****;*****	*****;*****	
Sample Type: 24 Hour Composite							
Frequency: Weekly							

Lake of the Ozarks Regional
WWTP 1
#3 Anderson Road
LAKE OZARK, MO, 65102

State of Missouri
Department of Natural Resources
National Pollutant Discharge Elimination System (NPDES)
Discharge Monitoring Report (DMR)

Central Field Operations
P O Box 176
Jefferson City, MO, 65102

pH	7.2	****	7.6	SU	****	****	****
Mon. Location: End of Pipe	Minimum:6.0	****,****	Maximum:9.0		****,****	****,****	
Sample Type: Grab							
Frequency: Weekly							
BOD, 5-day, percent removal	****	****	98.8	%	****	****	****
Mon. Location: End of Pipe	****,****	****,****	Monthly Avg. Min.:85		****,****	****,****	
Sample Type: Calculated							
Frequency: Monthly							
Suspended Solids, percent removal	****	****	99.4	%	****	****	****
Mon. Location: End of Pipe	****,****	****,****	Monthly Avg. Min.:85		****,****	****,****	
Sample Type: Calculated							
Frequency: Monthly							

Comments:

State of Missouri
Department of Natural Resources
National Pollutant Discharge Elimination System (NPDES)
Discharge Monitoring Report (DMR)

Central Field Operations
P O Box 176
Jefferson City, MO, 65102

Permit Number	Outfall Number
MO0103241	BNFIM
Monitoring Period	
12/1/21	12/31/21
NODE:	*****

Parameters	Reporting Requirements			Unit	Reporting Requirements		Unit
BOD, 5-day, 20 deg. C	*****	*****	263	mg/L	*****	*****	*****
Mon. Location.: Influent	*****	*****	Monthly Avg.: Monitoring Required		*****	*****	
Sample Type: 24 Hour Composite							
Frequency: Monthly							
Total Suspended Solids (TSS)	*****	*****	317	mg/L	*****	*****	*****
Mon. Location.: Influent	*****	*****	Monthly Avg.: Monitoring Required		*****	*****	
Sample Type: 24 Hour Composite							
Frequency: Monthly							
Nitrogen, ammonia total (as N)	55.1	*****	34.3	mg/L	*****	*****	*****
Mon. Location.: Influent	Daily Max.: Monitoring Required	*****	Monthly Avg.: Monitoring Required		*****	*****	
Sample Type: 24 Hour Composite							
Frequency: Monthly							
Phosphorus, total (as P)	5.4	*****	5.4	mg/L	*****	*****	*****
Mon. Location.: Influent	Daily Max.: Monitoring Required	*****	Monthly Avg.: Monitoring Required		*****	*****	
Sample Type: 24 Hour Composite							
Frequency: Monthly							
Nitrogen, Kjeldahl, total (as N)	46.5	*****	46.5	mg/L	*****	*****	*****
Mon. Location.: Influent	Daily Max.: Monitoring Required	*****	Monthly Avg.: Monitoring Required		*****	*****	
Sample Type: 24 Hour Composite							
Frequency: Monthly							
Nitrite plus nitrate total (as N)	<0.10	*****	<0.10	mg/L	*****	*****	*****
Mon. Location.: Influent	Daily Max.: Monitoring Required	*****	Monthly Avg.: Monitoring Required		*****	*****	
Sample Type: 24 Hour Composite							
Frequency: Monthly							

Comments:

Lake of the Ozarks Regional
WWTP 1
#3 Anderson Road
LAKE OZARK, MO, Miller

State of Missouri
Department of Natural Resources
National Pollutant Discharge Elimination System (NPDES)
Discharge Monitoring Report (DMR)

Central Field Operations
P O Box 176
Jefferson City, MO, 65102

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

eSignature Gary Hutchcraft	Submission Date January 4, 2022	User Phone Number (573)365-0455
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UNIT INFORMATION										PLANT INFORMATION										PLANT PERFORMANCE										PLANT ECONOMICS										PLANT SAFETY										PLANT ENVIRONMENT									
UNIT	TYPE	STATUS	DATE	TIME	LOCATION	OWNER	OPERATOR	MAINTENANCE	REPAIRS	REMARKS	PLANT	TYPE	STATUS	DATE	TIME	LOCATION	OWNER	OPERATOR	MAINTENANCE	REPAIRS	REMARKS	PLANT	TYPE	STATUS	DATE	TIME	LOCATION	OWNER	OPERATOR	MAINTENANCE	REPAIRS	REMARKS	PLANT	TYPE	STATUS	DATE	TIME	LOCATION	OWNER	OPERATOR	MAINTENANCE	REPAIRS	REMARKS	PLANT	TYPE	STATUS	DATE	TIME	LOCATION	OWNER	OPERATOR	MAINTENANCE	REPAIRS	REMARKS					
1	200	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	4.0	4.1	4.2	4.3	4.4	4.5	4.6	4.7	4.8	4.9	5.0	5.1	5.2	5.3	5.4	5.5	5.6	5.7	5.8	5.9	6.0								
2	200	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	4.0	4.1	4.2	4.3	4.4	4.5	4.6	4.7	4.8	4.9	5.0	5.1	5.2	5.3	5.4	5.5	5.6	5.7	5.8	5.9	6.0								
3	200	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	4.0	4.1	4.2	4.3	4.4	4.5	4.6	4.7	4.8	4.9	5.0	5.1	5.2	5.3	5.4	5.5	5.6	5.7	5.8	5.9	6.0								
4	200	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	4.0	4.1	4.2	4.3	4.4	4.5	4.6	4.7	4.8	4.9	5.0	5.1	5.2	5.3	5.4	5.5	5.6	5.7	5.8	5.9	6.0								
5	200	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	4.0	4.1	4.2	4.3	4.4	4.5	4.6	4.7	4.8	4.9	5.0	5.1	5.2	5.3	5.4	5.5	5.6	5.7	5.8	5.9	6.0								
6	200	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	4.0	4.1	4.2	4.3	4.4	4.5	4.6	4.7	4.8	4.9	5.0	5.1	5.2	5.3	5.4	5.5	5.6	5.7	5.8	5.9	6.0								
7	200	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	4.0	4.1	4.2	4.3	4.4	4.5	4.6	4.7	4.8	4.9	5.0	5.1	5.2	5.3	5.4	5.5	5.6	5.7	5.8	5.9	6.0								
8	200	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	4.0	4.1	4.2	4.3	4.4	4.5	4.6	4.7	4.8	4.9	5.0	5.1	5.2	5.3	5.4	5.5	5.6	5.7	5.8	5.9	6.0								
9	200	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	4.0	4.1	4.2	4.3	4.4	4.5	4.6	4.7	4.8	4.9	5.0	5.1	5.2	5.3	5.4	5.5	5.6	5.7	5.8	5.9	6.0								
10	200	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	4.0	4.1	4.2	4.3	4.4	4.5	4.6	4.7	4.8	4.9	5.0	5.1	5.2	5.3	5.4	5.5	5.6	5.7	5.8	5.9	6.0								
11	200	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	4.0	4.1	4.2	4.3	4.4	4.5	4.6	4.7	4.8	4.9	5.0	5.1	5.2	5.3	5.4	5.5	5.6	5.7	5.8	5.9	6.0								
12	200	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	4.0	4.1	4.2	4.3	4.4	4.5	4.6	4.7	4.8	4.9	5.0	5.1	5.2	5.3	5.4	5.5	5.6	5.7	5.8	5.9	6.0								
13	200	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	4.0	4.1	4.2	4.3	4.4	4.5	4.6	4.7	4.8	4.9	5.0	5.1	5.2	5.3	5.4	5.5	5.6	5.7	5.8	5.9	6.0								
14	200	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	4.0	4.1	4.2	4.3	4.4	4.5	4.6	4.7	4.8	4.9	5.0	5.1	5.2	5.3	5.4	5.5	5.6	5.7	5.8	5.9	6.0								
15	200	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	4.0	4.1	4.2	4.3	4.4	4.5	4.6	4.7	4.8	4.9	5.0	5.1	5.2	5.3	5.4	5.5	5.6	5.7	5.8	5.9	6.0								
16	200	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	4.0	4.1	4.2	4.3	4.4	4.5	4.6	4.7	4.8	4.9	5.0	5.1	5.2	5.3	5.4	5.5	5.6	5.7	5.8	5.9	6.0								
17	200	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	4.0	4.1	4.2	4.3	4.4	4.5	4.6	4.7	4.8	4.9	5.0	5.1	5.2	5.3	5.4	5.5	5.6	5.7	5.8	5.9	6.0								
18	200	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	4.0	4.1	4.2	4.3	4.4	4.5	4.6	4.7	4.8	4.9	5.0	5.1	5.2	5.3	5.4	5.5	5.6	5.7	5.8	5.9	6.0								
19	200	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	4.0	4.1	4.2	4.3	4.4	4.5	4.6	4.7	4.8	4.9	5.0	5.1	5.2	5.3	5.4	5.5	5.6	5.7	5.8	5.9	6.0								
20	200	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	4.0	4.1	4.2	4.3	4.4	4.5	4.6	4.7	4.8	4.9	5.0	5.1	5.2	5.3	5.4	5.5	5.6	5.7	5.8	5.9	6.0								
21	200	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	4.0	4.1	4.2	4.3	4.4	4.5	4.6	4.7	4.8	4.9	5.0	5.1	5.2	5.3	5.4	5.5	5.6	5.7	5.8	5.9	6.0								
22	200	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	4.0	4.1	4.2	4.3	4.4	4.5	4.6	4.7	4.8	4.9	5.0	5.1	5.2	5.3	5.4	5.5	5.6	5.7	5.8	5.9	6.0								
23	200	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	4.0	4.1	4.2	4.3	4.4	4.5	4.6	4.7	4.8	4.9	5.0	5.1	5.2	5.3	5.4	5.5	5.6	5.7	5.8	5.9	6.0								
24	200	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	4.0	4.1	4.2	4.3	4.4	4.5	4.6	4.7	4.8	4.9	5.0	5.1	5.2	5.3	5.4	5.5	5.6	5.7	5.8	5.9	6.0								
25	200	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	4.0	4.1	4.2	4.3	4.4	4.5	4.6	4.7	4.8	4.9	5.0	5.1	5.2	5.3	5.4	5.5	5.6	5.7	5.8	5.9	6.0								
26	200	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	4.0	4.1	4.2	4.3	4.4	4.5	4.6	4.7	4.8	4.9	5.0	5.1	5.2	5.3	5.4	5.5	5.6	5.7	5.8	5.9	6.0								
27	200	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	4.0	4.1	4.2	4.3	4.4	4.5	4.6	4.7	4.8	4.9	5.0	5.1	5.2	5.3	5.4	5.5	5.6	5.7	5.8	5.9	6.0								
28	200	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	4.0	4.1	4.2	4.3	4.4	4.5	4.6	4.7	4.8	4.9	5.0	5.1	5.2	5.3	5.4	5.5	5.6	5.7	5.8	5.9	6.0								
29	200	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0	3.1	3.2	3.3																																			

U.S. National Library of Medicine, Bethesda, Maryland, U.S.A.; ³University of Illinois, Chicago, Illinois, U.S.A.

မှောင်မိုက်စွာ ရင်နှစ်

Approved by _____ **CD**

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December 15, 2021

Board of Directors
Lake Ozark/ Osage Beach Joint Wastewater Plant Board
City of Osage Beach
c/o Karri Bell
1000 City Parkway
Osage Beach, MO 65065

Dear Board of Directors:

As per the terms and conditions of the Alliance O&M Agreement dated December 12, 2018, the base fee is adjusted on January 1st each year to reflect the change in the Consumer Price Index and the other terms of the Agreement.

The Agreement specifies the use of the Department of Labor CPI – All Urban Consumer Midwest – Size Class D, not seasonally adjusted (Series CUURD200SA0). The most recent CPI data used to calculate the Alliance Fee beginning January 1, 2021 was the twelve (12) month period from November 2019 through November 2020.

Accordingly, the base fee beginning January 1, 2022 will use the 12 month period from November 2020 through November 2021. The appropriate indices and resulting contract adjustment is calculated as follows:

CPI November 2020 241.316
CPI November 2021 258.911

CPI Increase $= (258.911 - 241.316) / 241.316$
 $= 7.3\%$

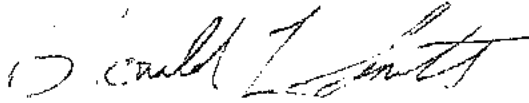
Per the Agreement, the base fee will be adjusted upward beginning January 1, 2022 by the CPI percentage of 7.3%. The calculation of the 2022 Base Contract Fee is as follows:

Current 2021 Monthly Fee = \$25,720.00
Adjusted 2021 Monthly Fee = $\$25,720.00 \times 1.073 = \$ 27,590$

The invoice for January 2022 will reflect the new base fee of \$27,590

On behalf of Gary Hutchcraft and Alliance Water Resources, thank you for allowing us to serve your communities.

Sincerely,

A handwritten signature in dark ink, appearing to read "Ronald L. Smith". The signature is fluid and cursive, with the first name "Ronald" and last name "Smith" clearly distinguishable.

Ronald L. Smith
Regional Operations Manager
Alliance Water Resources

CC: Tony Sneed
Gary Hutchcraft

U.S. BUREAU OF LABOR STATISTICS

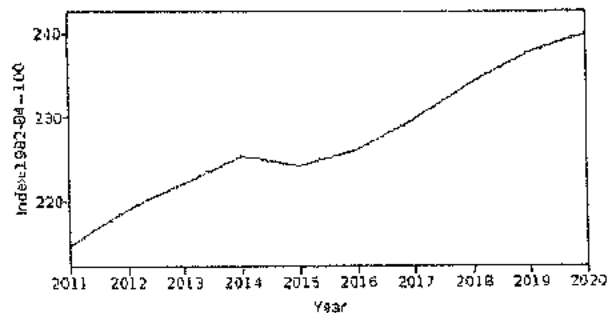
Databases, Tables & Calculators by Subject

Change Output Options: From: 2011 To: 2021  
☒ Include graphs ☐ include annual averages [More Formatting Options](#) 

Data extracted on: December 10, 2021 (2:44:11 PM)

CPI for All Urban Consumers (CPI-U)

Series Id: CUUR0200SA0
 Not Seasonally Adjusted
 Series Title: All items in Midwest urban, all urban consumers, not seasonally adjusted
 Area: Midwest
 Item: All Items
 Base Period: 1982-84=100



Download:  [Excel](#)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	HALF1	HALF2
2011	210.386	211.090	212.954	214.535	215.899	215.954	216.099	216.588	218.968	215.663	215.514	215.173	214.743	213.470	216.016
2012	216.368	218.855	218.975	219.405	219.145	219.017	218.956	220.462	221.125	220.375	219.483	219.033	219.100	218.294	219.908
2013	219.282	221.599	222.121	221.931	223.049	223.775	222.902	223.046	223.252	222.171	221.718	221.194	222.170	221.960	222.381
2014	222.247	223.493	225.485	226.214	226.565	227.588	226.997	226.587	226.913	225.793	224.398	222.821	225.425	225.265	225.585
2015	221.545	222.301	223.550	223.797	224.732	225.946	225.853	225.930	225.184	225.050	224.009	222.722	224.210	223.645	224.775
2016	223.301	223.196	224.621	225.609	226.478	227.835	226.788	227.097	227.836	227.358	226.673	226.794	226.115	225.173	227.057
2017	228.279	228.633	228.824	229.682	229.705	229.780	229.820	230.443	231.000	230.660	231.064	230.548	229.874	229.151	230.598
2018	232.028	232.512	232.931	233.913	235.065	235.455	235.345	235.275	235.524	235.680	234.292	233.458	234.290	233.851	234.929
2019	233.837	235.414	236.783	237.510	238.219	238.288	238.760	238.785	239.847	239.243	238.850	238.734	237.776	236.882	238.870
2020	239.690	240.421	239.163	236.474	237.291	239.259	240.430	241.362	241.878	241.740	241.318	241.453	240.040	238.718	241.353
2021	242.552	244.477	245.248	248.169	250.582	253.042	254.671	255.142	255.709	257.793	258.911			247.511	

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The Lake of the Ozark Regional Wastewater Treatment Plant #1

Emergency Response Plan, Emergency Operations Plan, Emergency Action Plan, and Fire Protection Plan

January 2022

Purpose

The purpose of the Emergency Response Plan (ERP) is to provide for an organized response to an emergency situation at the Lake of the Ozarks Regional Wastewater Treatment Plant #1 (WWTP). The primary emphasis in the ERP is to minimize risk to public health, and to minimize damage to private and public property. The secondary emphasis in the ERP is to provide the best possible wastewater treatment in the event of an emergency situation.

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Purpose of this Manual

This Emergency Response/Operations Plan Manual has been designed to assist in the first hours and days after a major disaster has damaged or destroyed the wastewater treatment system for the Lake of the Ozarks.

The manual is set up into several chapters of which some are in checklist format to assist you in prioritizing and planning your response.

The manual is designed to comply with MoDNR 10 CSR 60-12.101 Emergency Response/Operations Plan.

Updated/Reviewed for Accuracy Annually:

<i>Date:</i> 12/20/12	2013	<i>Initials:</i>	GH
<i>Date:</i> 1/14/14	2014	<i>Initials:</i>	GH
<i>Date:</i> 12/31/14	2015	<i>Initials:</i>	GH
<i>Date:</i> 1/4/16	2016	<i>Initials:</i>	GH
<i>Date:</i> 1/4/17	2017	<i>Initials:</i>	GH
<i>Date:</i> 1/4/18	2018	<i>Initials:</i>	GH
<i>Date:</i> 12/20/18	2019	<i>Initials:</i>	GH
<i>Date:</i> 1/3/20	2020	<i>Initials:</i>	GH
<i>Date:</i> 2/12/21	2021	<i>Initials:</i>	GH
<i>Date:</i> 12/14/21	2022	<i>Initials:</i>	GH

Preliminary Damage Assessment Checklist

- ☐ Call key plant personnel, starting with Contact Order on page 3 of this ERP.
Determine need for additional personnel.
- ☐ Notify fire department if appropriate.
- ☐ Identify person in charge at the site.
- ☐ Make preliminary site evaluation, determine extent of physical and operating damage.
(Check piping, pumps, basins, structures, look for seepage, leaks, cracks, landslides,
broken pipes and drains).
- ☐ Check for downed power lines and propane gas odors and notify Ameren UE if
necessary.
- ☐ If damage appears intentional, notify police (site may be a crime scene).
- ☐ Take steps to keep public safe, use barricades, etc. Remove obstacles that will
prevent emergency vehicle access.
- ☐ Person in charge should contact key Joint Sewer Board Representatives to inform of
situation and discuss further anticipated notifications.
- ☐ If environmental damage is likely, notify MDNR.
- ☐ If public health is at risk, notify local health department.
- ☐ Develop mitigation and recovery plan.

Section I

A. Personnel Inventory, Contact Order & Training

1: Personnel Inventory

Name	Title	Office Phone	Home Phone	Mobile Phone
Gary Hutchcraft	Local Manager II	573-365-0455		573-216-8398
John Hornback	Supervisor	573-365-0455	573-369-2761	573-480-4065
Russell Granville	Utility Worker I	573-365-0455		573-836-0425
Ron Smith	Division Manager/ Director of Operations	573-874-8080		636-795-6156
Mark Mahler	Director of Compliance & Safety	573-874-8080	Ext. 226	573-825-8169
Tony Sneed	Director of Operations	573-874-8080	Ext. 203	256-278-1264
Tim Geraghty	AWR President	573-874-8080	Ext. 229	314-575-4738

2: Contact Order

Contact Order	Corporate Office Contact	Division Contact	Outside Support Contact
1		Gary Hutchcraft	
2		John Hornback	
3		Russell Granville	
4			Lonnie Madole
5			Kevin Klein
6			Josh Thompson
7	Ron Smith		
8	Tony Sneed		
9	Tim Geraghty		
Client	Kevin Crooks		
Contact:	Matt Michalik		

3: Annual Staff Training Goals

- * CPR – First Aid
- * Confined Space Entry
- * Vehicle Safety – Defensive Driving
- * Hazard Communication
- * Work Area Protection – Traffic Around Job Sites
- * Lockout – Tagout
- * Back Safety/Lifting Methods
- * Respiratory Protection
- * Emergency Action and Fire Prevention

- 4: Emergency Response Plan shall be reviewed and updated on an annual basis

B. Facility Emergency Equipment Inventory

1. Communications

a. Cell Phones

The following Cell numbers have been assigned to staff:

Gary Hutchcraft	573-216-8398
John Hornback	573-216-3878 (duty phone)
Russell Granville	573-216-3878 (duty phone)

b. Telephones

WWTP Plant Voice	573-365-0455
WWTP Plant Dialer	573-365-0455
WWTP Duty Cell	573-216-3878

2. Safety Equipment

- a. Full body harness (2) - (Admin. Bldg.)
- b. Lanyard & spreader bar - (Admin. Bldg.)
- c. Tripod and hoist - (Admin. Bldg.)
- d. 4-gas Drager X-am 2000 gas detector - (Admin. Bldg.-office)

3. Other Equipment

- a. Ford 6" trash pump, City owned (Lake Ozark)
- b. 30' of 6" suction hose, City owned (Lake Ozark). 60' of 4" suction hose w/ 4 to 6" adapter.
- c. AMT 3" trash pump, w/ 30' and 50' hoses w/ quick couplers.
- d. Ford F250, 4WD pickup truck w/ snow blade & sand spreader
- e. Volvo White GMC Sludge pump truck w/ 3700 gallon tank.
- f. Wire feed Welder (1)
- g. Oxygen and Acetylene torch set w/ 50' hose.

C. Command Post Designation

- The command post for the WWTP shall be in the Administration building-office at the WWTP. If conditions make this impossible, then the command post shall be located at a designated site provided for by the Joint Sewer Board.
- All communications shall be coordinated through the City.

D. Communications Policy

1-Report all emergency situations (if possible), to Gary Hutchcraft

If Gary cannot be contacted, then call the people on the following list until someone is notified of the emergency situation.

	Work	Mobile	Home
• Russell Granville	573-365-0455	573-836-0425	
• John Homback	573-365-0455	573-480-4065	573-369-2761
• Lonnie Maddie	573-378-5737	573-789-5242	
• Kevin Klein	573-378-5737	573-378-8510	
• Josh Thompson	573-364-8790	573-308-6229	573-762-9941
• Ron Smith	573-874-8080	636-795-6156	
• Tony Sneed	573-874-8080x302	255-278-1264	
• Tim Geraghty	573-874-8080x229	314-575-4738	

What qualifies as an emergency situation?

Generally speaking, an emergency situation can be anything that has the potential to cause danger to human health, and or damage to property. We can easily extend the meaning of an emergency situation to be anything that has the potential to cause damage to the environment. The practical application thus being: an emergency situation is any situation that has the potential to cause a violation of the NPDES permit.

The NPDES permit is a combination of both numeric and narrative standards that are developed to protect the designated uses of the stream that the Lake of the Ozarks Regional WWTP #1 discharges into. The permit also contains standards that cover wastewater discharges from the collection system.

The following outline lists some (not all) of the situations that qualify as an emergency situation that should trigger notification.

Surcharge

Wet Weather

Dry Weather

Loss of treatment

Power Fail

Equipment damage

Toxic Shock

Short Circuit

Sabotage

2 - In an emergency situation the following information shall be communicated:

- What has been damaged,
- If no damage, why is there an emergency,
- Is there a threat to public health,
- Is there damage to public and/or private property,
- Has treatment been affected,
- Are NPDES permit violations occurring,
- Will NPDES permit violations result from the emergency,
- Are there any safety issues due to the emergency,
- Are help and/or equipment needed to eliminate the emergency?

3-The MODNR will have to be contacted when Section B, 2A-B, (noncompliance notification standards, published in the 'Standard Conditions for NPDES Permits'), have been reached. A copy of these standards is included in the text of this plan on page 24. Follow the directions listed in the 'notification standards'.

MODNR Department Central Office Phone: 573-751-3443 & FBI Phone is 1-800-CALLFBI
Central Field Operations 573-522-3322 or Environmental Emergence Response 573-634-2436
P.O. Box 176
Jefferson City, MO 65102-0176

Always notify the Joint Sewer Board and Corporate before MODNR notification. When notifying the MODNR always record the name of who you are talking to, and the time and date of the notification. Give the following information: what the violation is per notification standards, and what our actions are to eliminate the violation. Be factual; do not assume anything. Finally, find out if the DNR requires written notification concerning the violation.

In the 2 drawer file cabinet by the copier, the file that is marked "DNR Bypass forms" there are two report forms that need to be filled out in any bypass situation, and/or any operations - treatment emergency that reaches notification standards. One report form (Wastewater Bypass Report Form) is for the MODNR, and the other report form (Deviation Notification Form) is for AWR corporate. These forms are also included in Appendix 8 of this manual.

E. Emergency Action Plan

- Procedures for reporting a fire or other emergency situations.
 1. Call 911 and report the situation
 2. If the land line phones don't work, try cells and direct connects
 3. Determine if a response is safe and or necessary
 4. Determine whether or not evacuation is necessary
- Procedures for emergency evacuation including type of evacuation and exit route assignments.
 1. If an emergency evacuation is necessary follow the exit routes posted in the buildings.
 2. All evacuees shall meet at the main entrance gate, and determine what action needs to be taken, and if support can be given to emergency response personnel.
- Procedures to be followed by employees who remain to operate critical plant operations before they evacuate.
 1. If employees need to stay behind to operate critical plant operations, they shall establish communications with an employee who has already evacuated. Communications shall be on a routine basis with information conveyed relating to the safety of the remaining employee, current operation conditions, safety related conditions, etc.
 2. The employee who stayed behind shall evacuate if life threatening conditions present themselves, or if there is evidence that a condition may become life threatening.
- Procedures to account for all employees after evacuation.
 1. As specified above, all employees who evacuate shall meet just outside the entrance gate. An accounting of all employees shall be determined.

- Assignments

1. The on-call operator shall be designated as the employee who stays behind.
2. The local manager shall ensure that communications are being carried out with the employee who stayed behind
3. The local manager is responsible for making an accounting of all employees.

F. Fire Protection Plan

- Assure that hazardous accumulations of combustible waste material are controlled.
 1. Place used rags in the metal used rag container.
 2. Keep trash picked up and trash cans empty on a regular basis.
 3. Complete and turn in the required hot work permit for all welding or grinding activities.
 4. Keep a 30 minute fire watch after any welding operation has ended.
 5. Keep combustible liquids in the storage cabinets. Keep the cabinet doors closed.
- Identify high risk areas and develop plans to minimize potential fire hazards.
 1. The highest risk area for fires is in the shop. Plans to minimize the risk of a fire include: use of storage cabinets for gasoline, paints, etc. Use of metal trash cans with lids for the storage of used shop rags. And the control of trash accumulation on the floor and in the trash cans.

		HOT WORK PERMIT/ CHECKLIST	
Location:		Date:	Supervisor:
Work to be done:			
Special Precautions:			
Time Started:		Time Completed:	
Signed:		Date:	

(Individual responsible for Hot Work authorization.)

ATTENTION	
Before approval of the Hot Work Permit, the Supervisor or appointee shall inspect the work area and confirm that all precautions have been taken to prevent fire.	

Yes	No	N/A	Precautions
			Is all cutting and welding equipment in good repair/ condition?
			Has pre-task Tool Box Talk been administered?

Yes	No	N/A	Within 25 Feet of Work
			Floor/ ground clear of combustibles if possible?
			Combustible floors wet down, covered, or shielded?
			No combustible material or flammable liquids?
			Combustibles and flammable liquids covered or shielded?

Yes	No	N/A	Work on Enclosed Equipment
			Equipment cleaned of all combustibles?
			Containers/ drums purged of flammable vapors/ materials?

Yes	No	N/A	Fire Watch
x			To be provided during and 30 minutes after work completion?
x			Supplied with fire extinguisher and or small charged fire hose?
x			Trained in the use of equipment and emergency procedures?

Yes	No	N/A	Final Check-Up
			Completed 30 minutes after work completion?
Supervisor Signature:			Date:

(To be signed by individual responsible for Final Check-Up, after its completion.)

G. Emergency Identification and Analysis

Emergency	Analysis
Severe storms, high wind, lightning, floods.	• Damage can range from low to medium depending on severity of storm. • Electrical supply, electrical pathways, exposed equipment and equipment located in underground vaults (when flooding is a concern), are most susceptible to damage.
Severe cold, ice storms, blizzards.	• Damage can range from low to medium depending on severity of conditions. • Temperatures below -15° F are cause for emergency response with outside equipment and with buildings that require additional heat to protect equipment with exposed moving parts. In these conditions always make sure the lift stations lids are closed. • Ice storms and blizzards can cause damage to the electrical supply and also hinder access to the Wastewater Treatment Plant.
Earthquakes.	• Damage can range from low to high. • A major earthquake has the potential to cause extensive damage to all phases of wastewater collection and wastewater treatment since a lot of equipment is located underground. • Damage can also occur in weak links of a collection system or weak areas of concrete basins, which may not be apparent by visual observation.
Sabotage, civil unrest, riots, terrorist attacks.	• Damage can range from low to high on electrical supply, and any equipment that is exposed and can be easily damaged (i.e. bar screen, electrical control panels, lift stations, lab-office building equipment, etc.). • Measures to prevent damage from terrorist attacks are detailed in the following section on facilities security.
Air borne chemicals, water borne chemicals, toxic chemical spills, weapons of mass destruction.	• Damage to bacteria mass in the treatment process, and can also affect health of treatment personnel. • Caution should always be taken when confronting a chemical - biological emergency. • If weapons of mass destruction are suspected to have caused the emergency, then treat the affected area as a crime scene and call local authorities.

H. Facilities Security:

The following topics should be analyzed and developed to increase security to its highest Level at the WWTP:

1. Detection (the ability to detect a security threat),
2. Access (deter access to the WWTP),
3. Delay (provide a layered barrier system to delay access to the WWTP)
4. Respond (develop an organized response to a breach in security)

I. Priority Equipment and Processes.

The following list is a list of equipment and/or processes in the order of relative importance to the wastewater treatment process. The list shall be used as a guide when determining what equipment and/or processes need to be placed into service first, second, and so on, when there is a widespread emergency. The list is organized into two categories: WWTP mechanical (piping and valves), and equipment (which includes structures).

Mechanical	Treatment Equipment
1. Raw sewage force mains to WWTP.	1. Oxidation Ditches (at least one aerator per unit that WW is entering)
2. Gravity thru Oxidation Ditches.	2. Final Clarifiers (1,2 & 3).
3. Gravity mains from oxidation ditches to final clarifiers splitter boxes.	3. Adjustable weir gate valves at basins
4. Gravity to Clarifiers.	4. Adjustable weir gate valves at splitter box for Clarifiers
5. Sluice gates in Oxidation Ditches and UV channels for draining purposes	5. Lift Station between aeration basins
6. RAS force main back to Ditches	6. RAS electric pinch valves in middle room of headwork's bldg.
7. RAS waste from clarifiers	7. Waste valves
8. Sludge waste force mains to sludge storage cells.	8. Waste valve pit and waste manhole on top of hill and at bottom by Digesters

J. Emergency Response Guidelines.

1. General Guidelines.

- **Analysis and Planning.** If time permits conduct an initial meeting with staff to assess an expected emergency situation. Outline potential damage to specific equipment, processes, or structures. Plan a strategy to prevent potential damage and/or minimize its effects on public health, property, and wastewater treatment.
- **Inspect.** After the onset of an emergency, inspect WWTP for damage. Follow all applicable safety regulations and lock out and secure any unsafe areas.
- **Communicate.** Document damaged units, and unsafe areas. If damage creates immediate threats to public health, properties, and/or wastewater treatment, contact Joint Sewer Board, AWR, and State; to advise of situation. Consult communications policy on page 4.
- **React.** Execute activities to eliminate threats to public health, property, and/or wastewater treatment. Refer to 'Damage and Response' section of this plan to help direct the activities. Collect necessary samples, as NPDES permit requires. Develop best treatment plan in the event of an emergency that disables one or several process units. Contact City's for emergency purchasing authority. Contact vendors for needed supplies.
- **Communicate.** Update the Joint Sewer Board, AWR, and State as needed. Log important observations and actions.
- **Repair.** Make necessary repairs to bring damaged units back up to full operations.
- **Review.** Review emergency response with staff and make adjustments in the ERP if necessary.

In a widespread emergency, AWR staff will be required to assist the Joint Sewer Board. In this situation, one staff member (two staff if there are safety concerns), will be responsible for implementing the initial steps of the above guidelines.

K. Emergency Action Procedure for Epidemic/Pandemic

Description

- ❖ A pandemic is a global disease outbreak. A flu pandemic occurs when a new influenza virus emerges for which people have little or no immunity and for which there is no vaccine. The disease spreads easily person-to-person, causes serious illness, and can sweep across the country and around the world in a very short time.

Notification chain

Note: Phone numbers are in Section I. Personnel Inventory, Contact Order & Training

- Local Manager notifies
 - o Plant Personnel
 - o Division Manager
 - o Joint Sewer Board Representatives

Preparation/Mitigation

- Scheduling redundancy
- Proper PPE on hand
 - o Masks, gloves, and sanitizer
- Essential supplies for prolonged hours
 - o Cot, non-perishable food

Response

- Masks and other PPE will be required as recommended by AWR and CDC.
 - o Masks are to be worn indoors when more than one person is on the premises.
 - o Masks are to be worn when riding in a vehicle with others.
- Cards will be distributed identifying employees as essential.
- Surfaces, door handles, keyboards/mouse and all common use items must be disinfected on a regular basis.
- No visitors are to be allowed at the plant without approval of superintendent or above.
- Teams and crews are to stay separated from other groups.
- Employees are to spread out in large environments for meetings and lunch.
- Wastewater Plant specific response:
 - o Separate employees into two teams.
 - Operating Team A
 - 2 operators
 - Operating Team B
 - 2 operators
 - o Operating Team A reports and works.
 - o When operating team B performs work at plant, they must inform operator team A of what rooms they will be working in.
 - o Disinfection of common use items is to occur at the beginning and end of each shift.

Recovery

- Normal operations are to resume once CDC or AWR deems it safe.

Remediation

- Normal operations are to resume once CDC or AWR deems it safe.

Section II

Damage and Response

Damage to the WWTP can result in threats to public health and/or damage to private or public property. Damage can also result in an interruption of wastewater treatment in various degrees. The WWTP are constructed of several process units that are linked together to convey and treat the wastewater. This section looks at the possible effects of damage to these process units, and what type of responses can be made to limit the threat to public health, property damage, and the continuation of wastewater treatment.

Process Unit:

Main Power Supply

Key Components:

3 phase power lines from sub, pole and pad mounted transformers feeding MCC1 which feeds MCC2. When power goes out the standby/backup generator will automatically come on and feed both MCC1 & 2 but everything will not come back on automatically. Manually restart all equipment that was going before outage if capable following every precaution mentioned in this ERP.

Effects of Damage

Power lines-

- In severe cases one or all of the power lines can be severed which will result in power loss to the WWTP.
- If power lines are severed upstream from the pole or pad mounted transformers then power loss will affect MCC1 & MCC2
- Power loss of more than 8 hours has the potential to cause the ditches to go septic and the sludge in the clarifiers to surface and bulk and/or cause a violation of permit limits.

Transformers-

- Loss of one or more of the pole or pad mounted transformers will cause power loss to MCC1.

Response

Power lines-

- Call Ameren UE and find out how soon they can make it out. Once you have a response then call the Local Manager and inform, then let him make the decision on what to do next.
- At the least the employee on emergency Duty must stay until Ameren UE restores power or a relief operator shows up to relieve him and once power is restored bring one piece of equipment back on line at a time.

Transformers-

- Checks to see if fuses have blown or flipped down on the pole mounted transformer by the main power control room at the Headwork's Bldg. and inform Ameren UE of it. If that is what it is then, it will be an easy fix for them. **Never try to attempt to flip fuses back up on your own, Let Ameren UE do it.**

Process Unit:

Head Works

Key Components:

MCC1 and MCC2 control power and control equipment (unit specific), mechanical bar screens, grit chamber, grit solids pump, RAS pumps, non-pot and potable pumps.

Effects of Damage

In general-

- In any case, if damage is severe enough to disrupt either the mechanical bar screen, and/or the grit chamber/grit solids pump; both units can be bypassed. This condition is acceptable for a few days.

Response

In general-

- If units must be bypassed, do so immediately by placing a stop gate in its appropriate positions; this job requires two people.
- Install the manual bar screen as needed.
- Do not allow flow into the grit chamber if the paddle drives, grit solids pump, are not working, for more than couple of days.
- If damage results in the loss of the heater then emergency heating needs to be set up in sub-freezing weather.
- Pump out the grit chamber if it will be out of service during sub-freezing weather and are experiencing icing conditions.
- If necessary, also pull the Auto bar screen up and install manual bar screen; this will require getting in influent channel and hooking come-along to eyelets on bottom of bar screen and lifting it up out of the way so you can install the manual screen. This job requires at least 2 people.
- When bringing units back into service the mechanical bar screen shall receive top priority over the grit chamber, grit solids pump.

Process Unit:

Secondary Treatment

Key Components:

MCC1 and MCC2, aerator control box, control power and control equipment, oxidation ditch 1, and oxidation ditch 2.

Effects of Damage

In general-

- MCC1 power center is utilized to operate the aeration equipment.
- The most critical aeration equipment are the motors and gear boxes that drive the Carroussels. At least one should be in operation at all times.
- Loss of the oxidation ditches will result in at least a 60% reduction in treatment.
- Loss of air to the bacteria in the oxidation ditches for more than: 4 hours in the summer, and 24 hours in the winter, will create anoxic conditions and could possibly kill the bacterial population.

Response

In general-

- The oxidation ditches can, (one at a time), be isolated from the WW treatment process.
- If all aeration equipment is down make arrangements to get a minimum of one carrousel per ditch in operation ASAP.
- Note: If there has been a toxic spill in the collection system, one of the oxidation ditches can be made ready to accept the toxic waste, and then taken out of the process to further treat the toxic waste.
- If bacterial population is killed, plan to get seed from Camdenton or other surrounding communities.

Process Unit:

Clarification

Key Components:

Clarifier splitter box

MCC1 feeds MCC2.

Final clarifiers 1, 2, 3

Control power and control equipment.

Clarifier drive units, skimming mechanism, scraper mechanism, sludge withdrawal, RAS pumps, RAS force main, WAS force main, and clarifier gravity drain

Effects of Damage

In general-

- Severe cold is the most likely threat to damage the clarifiers.
- Earthquakes could cause considerable damage to underground piping.
- There is one inlet line and one drain line on clarifiers #1 and #2, with no drain on #3, so it is appropriate to state that any damage to underground piping could result in total disruption to the function of the clarifiers.
- Damage to sludge withdrawal equipment will disrupt the return of sludge to the oxidation ditches and thus stockpile the sludge in the affected clarifiers.

Response

In general-

- In severe cold, the skimming mechanisms should be modified to minimize potential damage to the skimmer arm/rake mechanism.
- A means of maintaining surface water disturbance (i.e. water sprays) is necessary to keep the surface from forming thick ice.
- Constant attention shall be given to the clarifiers during extreme cold conditions.
- Emergency pumping may be required to remove sludge from the clarifiers. This can be accomplished with the sludge pump truck on a routine interval. Clarifiers 1, and 2, should be placed back into service first.
- Note: Clarifier 3 cannot be drained dry by means gravity drain mains; it has to be pumped dry by RAS pumps.

Process Unit:

RAS Pump Building (basement)

Key Components:

MCC1 feeds MCC2, control power and control equipment, discharge piping, and check valves, discharge valves, force main, pumps/motors.

Effects of Damage

Main power-

- Will disable pumps and may lead to the stockpiling of sludge in the clarifiers. If left unchecked sludge can be discharged into the receiving stream.

Control power, control equipment-

- Will disable pumps in the automatic mode. Pumps can be operated manually (unless control transformer is damaged).

Piping and valves-

- Damage will inhibit operation of pumps.

Pumps and motors-

- Can disable one or all pumps.
- There are five pumps in the RAS pump building, which should greatly minimize the chance of losing total pumping capacity.

Response

Main power-

- If there is a power loss feeding the pump building then check to see if you have lost a leg of your 3 phase power in MCC2?
- If there is an interruption of main power within the control panel then isolate the problem (motor starter contacts, thermal overloads, fuses, etc.) and correct.
- Be aware that high amps indicate a motor overload (shorted windings, bad bearings, pump obstructions, etc.), and should be corrected before placing any motor back into service.

Control power, control equipment-

- If pumps operate on hand but not on auto then there is a problem with either the control power and/or the control equipment.
- Check control voltages.

Piping and valves-

- If there is damage to suction piping and/or check valves, then the damage shall be repaired, (ASAP if all pumps are affected; emergency pumping may have to be provided in this situation).
- If damage to piping and valves occurs downstream from the check valve, the damage should be repaired as required to allow RAS to be conveyed under pressure.

Pumps and motors-

- If all pumps are disabled then isolate the problem with each pump and plan corrective action based on which pump can be repaired the fastest. Make repairs to that pump then proceed to the next, etc.

Process Unit:

Sludge Digestion and Sludge Storage

Key Components:

Motor control center at digesters, positive displacement blowers air suction and discharge piping, air distribution piping and diffusers, sludge loading station, force main(s), valves.

Effects of Damage

In general-

- Damage will most likely have a minimal effect except in a situation where the sludge basins are discharging sludge.
- Loss of aeration will turn the sludge basins into facultative storage.
- Long-term loss of air may damage the diffusers.

Response

In general-

- If the sludge basins are discharging sludge then action should be taken immediately to contain the sludge and prevent it from reaching the receiving stream.
- If flood conditions exist, let water recede and then evaluate the situation. If sludge spill takes place fill out MODNR SSO/Bypass and AWR Deviation Notification forms, found in (Appendix 7). Make needed repairs and get back on line ASAP.
- Loss of air should be addressed as time permits.

Section III

Contingency Plans

Contingency Plan for Total Loss of Electrical Power

Goal: Develop strategies and to assign specific duties to plant staff: to provide for continuance of pumping at critical points of Plant; and to provide for at least primary treatment at the wastewater plant.

Response:

1. The employee on call must come to the plant and make sure the generator is going, then get into service one aerator in each ditch and at the minimum 2 clarifiers depending on flow conditions.
2. Get into service the head works building equipment.
3. In below freezing weather check to make sure heaters in all buildings are operating properly.
4. Check to make sure that lift stations are operating properly.
5. Check status of wastewater plant.
6. Check all lift stations, secure by taking one of the two pumps off line, and providing emergency pumping if needed.
7. Conduct a meeting to evaluate the situation and make necessary decisions as the need arises.

Contingency Plan for High Flows

Goal: Minimize solids wash out and provide for best treatment of all influent flow.

Note: During a high flow event both oxidation ditches will be needed to prevent solids wash out.

Response: Response depends on whether one ditch is in service or if both ditches are in service. Great care must be used when, at the onset of high flows, that sludge blanket depths are monitored. If sludge blankets are rising then several options present themselves, first, more clarifiers can be placed into service, if any is out, second, #1 and #4 carrousel aerators can be shut off reduce mixing in the ditch (es), third, #3 and #6 can be taken out of service to further reduce mixing in the ditch (es), fourth, all aerators can be taken out of service (for short periods of time, i.e. up to 8 hours) to eliminate mixing in the ditch (es). Or a combination of the above measures can be used. The overall goal is to save the mixed liquor suspended solids (mlss) in the ditch from being discharged in the receiving stream. Past high flow events have demonstrated that proper management of flow through the plant can achieve good treatment (within NPDES permit standards). It is also important to note that effluent sampling should be done during high flow events to assure that NPDES permit standards are being met, and that proper documentation in the plant daily bench sheet must be maintained on all process changes to manage high flows. Whenever all the carrousel aerators are shut off to prevent solids wash out the event must be reported as a bypass at the WWTP. Always leave 1 aerator in each ditch going if at all possible, even if it means moving the oxidation ditch inlet gates to aerators #3 and #6 and running only those aerators. This will give the mixed liquor suspended solids (mlss) time to settle in the ditch before entering the clarifiers.

Bulking Sludge

Response:

If a clarifier is bulking sludge and flows are normal for dry weather, first raise splitter box gate to the clarifier or clarifiers that are bulking, then go over to the RAS pinch valve and open them up all the way and if that doesn't calm things down then go down in the RAS basement and clean pumps.

If the pumps are not clogged but is flowing clear water then there is probably a short circuit in the clarifier caused by structural damage of the rake mechanism. Shut flow off to the clarifier and drain it and check for damage. Put other clarifiers (if one is down) on line as appropriate.

If the pump is not clogged and the discharge is dirty, then check the other clarifier to see if it is bulking as well. There could be a toxic shock. First try shutting the aerators off closest to the outlet weir gates and if that doesn't work try moving the basin inlet gates to, (#3 and #6) and running only those aerators, will minimize solid loss, and may be an appropriate response.

Contingency Plan for Toxic Chemical Release

Toxic chemical release to the wastewater treatment plant will most likely take place in one of two forms, regardless of the toxic agent.

The first likely scenario would be the discovery, containment and cleanup of a fuel leak. This would involve participation of Lake Ozark Fire Department, Lake Ozark Emergency Response personnel and a HAZMAT unit. In order to accept this type of waste a few conditions must be met: first, the BTEX test result (if available) should be less than 2.13 mg/l; and second, the plant is operating under dry weather flow conditions. If both conditions are met then the waste can be placed into one of the basins that has been determined to be used for that purpose. The waste can then be diluted and intermittently fed into the treatment process to minimize shock on the biological community in the treatment process. Bench testing of the waste can also be performed to demonstrate if there will be problems to the bacterial community.

The second most likely scenario would be notification of a toxic release into the sewer system. This has never happened (at least the notification part) but if this condition should arise then the most likely first response would be to divert all flow to the designated basin. The second step

would be to ascertain what type of toxic chemical it is (ask for MSDS information) and how much of the toxic chemical is in the system. The third step would be notification of City or Cities, Corporate and MODNR. With data available try to estimate when the chemical will arrive at the treatment plant and how long it will take to flush the chemical from the sewer system. This information will determine the length of time all flow will need to be diverted before it is safe to resume normal flow. Again, the availability of taking one basin off line will allow temporary containment (provided dry weather flows) and the ability to further treat the chemical and either release the chemical into the treatment process or allow for its removal and disposal at another location.

Contingency Plan for SSO's

SSO's can occur in both wet and dry weather.

Wet weather SSO's are usually caused by inflow and infiltration (I&I) of storm water into the wastewater collection system. A high rate of I&I can cause hydraulic overloading in the collection pipes and thus create an overflow in a manhole or a lift station.

Dry weather SSO's can occur due to collection pipe blockages, long term power fails, and /or lift station pump malfunction.

Whenever an SSO is observed use the Missouri Department of Natural Resources Wastewater Bypass Report Form (Appendix 7), along with the Deviation Notification Form (Appendix 7) to record the SSO event. Copies of these reports must be kept on file along with daily and monthly reports file. Wet weather bypasses at the WWTP are reported on the monthly monitoring report, and filed accordingly.

When bypasses occur at the treatment plant (flow discharged from the WWTP without proper treatment, and/or all aerators are shut off), then document the bypass in the plant daily bench sheet and start the effluent composite sampler. Bypasses from WWTP shall be noted on the monthly DMR, Daily bench sheet and Plant log book; until further notice.

Contingency Plan for Sludge Spills

Whenever sludge spills occur, documentation and cleanup services must begin immediately.

Documentation --

- Describe in the log book the location, cause and amount of the sludge spill.
- If the spill is greater than 25 gallons then treat the spill as a bypass and fill out the necessary documents (Appendix 7) and report the incident to the control authorities.

Clean Up --

- Treat spill area with lime
- Remove spilled material and dispose at the WWTP.
- If spill occurs on a public road way then use appropriate traffic control and warning signals as necessary

Appendix 1

Local Radio Stations

Call Letters	Frequency	Location	Phone#	Fax#
KRMS	AM 1150	Osage Beach, Mo	573-302-7000	
KRMS	FM 93.5	" " "	573-348-2779	
KLOZ	FM 92.7	" " "	573-302-1993	
KTKS	FM 95	Versailles, MO	573-378-5669	573-378-6640

Local Television Stations

Call Letters	Channel	Location	Phone#	Fax#
KMOS	PBS 7	Warrensburg, MO	573-543-4155	
KRCG	CBS 13	Jefferson City, MO	573-896-5144	

Local Newspapers

Name of Paper	Address	Contact Person	Phone#	Fax#
Lake News Focus	5107 Hwy. 54 Osg Bch		573-348-6050	
Lake Sun Leader	450 N. Hwy. 5 Camdenton	Justin	573-346-2132	
Eldon Advertiser	415 S. Maple St., Eldon		573-392-5658	
Leader-Statesman	104 W. Jasper, Versailles		573-378-5441	
Westside Star	400 N. Main St., Grvs Mls		573-374-3100	

Systems Personnel

Name	Position	Work Phone#	Mobile Phone#	Home Phone#
Gary Hutchcraft	Local Manager II	573-365-0455	573-216-8398	
John Hornback	Supervisor	573-365-0455	573-480-4065	573-369-2761
Russell Granville	Utility Worker I	573-365-0455	573-836-0425	
Ron Smith	Division Manager	573-874-8080	660-795-6156	
Mark Mahler	Director of Compliance & Safe	573-874-8080 x226	573-825-8169	
Tony Sneed	AWR Director of Operations	573-874-8080 x203	256-278-1264	

City Personnel

Name	Position	Work Phone#	Mobile Phone#
Jeana Woods	City Admin. Osage Beach	573-302-2000 ext. 1010	573-280-1174
Kevin Crooks	Public Works Op Manager	573-302-2020 Ext. 2000	573-280-4753
Caleb Robinett	Osage Beach Sewer Supervisor	573-302-2020	573-280-2473
David Mitchem	City Admin. Lake Ozark	573-365-5378	573-280-6992
Matt Michalik	Dir. P/W Lake Ozark	573-365-5378	573-216-6063
Nathaniel Boggs	Lake Ozark Sewer Supervisor	573-365-1741	573-216-6991
L.O. Police Dept.		573-365-5371	
O.B. Police Dept.		573-302-2010	

City Engineer

Name	Company	Work Phone#	Mobile Phone#	Fax#
	Osage Beach	573-320-2020		

Sewer Board

Name	Position/Department	Work Phone#
John Olivarri	Mayor / Osage Beach	573-302-2000
Kevin Rucker	Board Member / Osage Beach	573-302-2000
Gary Hamner	Board Member / Osage Beach	573-302-2000
Dennis Newberry	Mayor / Lake Ozark	573-365-5378
Pat Thompson	Board Member / Lake Ozark	573-365-5378

Local and County Authorities

Name	Position	Phone#	Fax#
Lake Ozark Fire Dept.		573-365-3380 or 911	573-365-3758
Osage Beach Fire Dept.		573-348-1221 or 911	
Miller Co. Sheriff Dept.		573-369-2341 or 911	
L.O. Police Dept.		573-365-5371 or 911	
O.B. Police Dept.		573-302-2010 or 911	
Miller County Health Dept.		573-369-2359	
Camden County Health Dept.		573-346-5479	

Local Ambulance Service

Name	Phone#	Emergency #
Osage Beach	573-302-2010	911
Miller County	573-369-2444	911

System Maps/Drawings

Name	Position	Work Phone#	Mobile Phone#	Home Phone#
Gary Hutchcraft	Local Manager	573-365-0455	573-216-8398	
Kevin Crooks	Osage Beach	573-302-2020	573-280-4753	
Matt Michalik	Dir. P/W Lake Ozark	573-365-5378	573-216-6063	

Local Utilities/Services/Suppliers

Service	Contact	Company	Phone#	Mobile Phone
Phone	Bruce	AT&T	800-286-8313	573-286-0954
Electric	Brent	Ameren UE	800-552-7583	573-694-5914
Propane	David	Ferrell Gas	573-392-5400	573-280-7184
UV System	Walt Williams	ITT Wedeco	704-409-9818	
Standby Generator	Nelson Coblenz	Martin Energy Group	800-436-9190	573-681-8027
Laboratory	Heather W.	Pace Labs	913-563-1406	
Electrician	Steve Durban	Aesthetix Electric	573-348-1429	573-219-0043
Electrician	Seth Agnew	Catalyst Electric	573-552-8488 ext 2	
Truck Repair	Norm	Crump Truck & Trailer	417-869-2515	417-861-8055
Truck Repair	Noah	Tri-State Truck Center	417-869-0566	417-496-7113
Truck Repair	Larry	Roemer Equipment Repair	573-348-3733	
Truck Repair	Tom Irwin	Irwin Diesel Repair	573-286-2585	573-286-2585
Heat A/C	Herb	Controlled Heating & Air	573-348-5455	
Heat A/C & KVAR		Comfort Heating & Cooling	573-348-9999	
Auto Mechanic		Precision Auto	573-348-2233	
Auto Mechanic	Tim	CAR Automotive	573-693-1500	
Instrumentation	Mike Ross	Vandevanter Engineering	636-225-8133	314-422-2872
Instrumentation	Scott Keith	ECCO Electric	573-348-1798	573-524-3399
Electric Motors	Jim	Bowling Electric	573-346-4355	
Pumps / Motors	B.J. Hedrick	Evans Enterprises	417-886-8886	417-844-3607
Pumps / Motors	Ben	JCI / MEMC	573-636-7061	573-694-9555
Clarifiers	Field Service	Eimco	801-526-2000	
Pumps / Motors, Aerator Gear Boxes	Bruce	S & S Electric	573-581-7667	
Backhoe / Dirt	Steve Butler	Drain Masters, LLC		573-216-1169

Work				
Building Repair	Jeff Carroll	Above & Beyond	573-302-0354	573-286-2006
Building Repair	John	Missouri Builders	573-636-7733	
Chemical Supplier	Larry Startin	Brenntag	417-887-3663	417-593-0108
Digester Aerators	Patrick	EDI	573-474-9456	
Truck Tires	Steve	Purcell Tire	573-348-4010	417-861-1955
Truck Tires	Kevin	McKnight Tire	573-635-0101	573-338-3350
Truck Tires	Correy	Clark Tire	573-374-8854	573-434-4539
Piping Supplies	Justin	Core & Main	573-348-1273	
Welding Service	Gary Koerber	GL Welding		573-680-3957

Waste Haulers

Source	Address	Phone#
Amos Septic	Linn Creek, MO	573-346-5992
Camden County	Lake Ozark, MO	573-374-5850
Bullock Septic	Laurie, MO	573-374-6688
A & A Septic	Camdenton, MO	573-346-5123

Emergency Rental Equipment

Company	Equipment	Location	Contact Person	Phone#
Midway Rental	All Types	Eldon, MO	Jim or Tom Dial	573-392-1611
Lake Lifestyle Rentals	All Types	Osage Beach, MO		573-348-3250
A-B Rental	All Types	Camdenton, MO		573-346-7700

MODNR & FBI Contacts

Names	Office	Phone #	Fax #
Keith Forck	Jefferson City	573-526-4232	
E.C. West	Springfield	417-891-4300	417-891-4399
Sieu T. Dang	Springfield	417-891-4300	417-891-4399
Emergency Response	After Hours Call	573-634-2436	
FBI		1-800-CALLFBI	

Appendix 2

Chemical List / Facility Map

Chemicals:

Lab Office Building

- Hydrochloric acid
- Sulfuric acid
- Sodium Hydroxide
- Denatured Alcohol
- Weed Killer

Maintenance Room/Shop (located in old Chlorine Tank room) or UV building.

- Chevron Gear Lube
- Transmission fluid
- Motor oil, various grades
- Anti-Freeze
- WD-40
- Dry Film Silicone
- Chain Lubricant

Sludge Digester Blower Building

- Hydrated bag Lime, 50lb bags

Headwork's Bldg. Storage Room

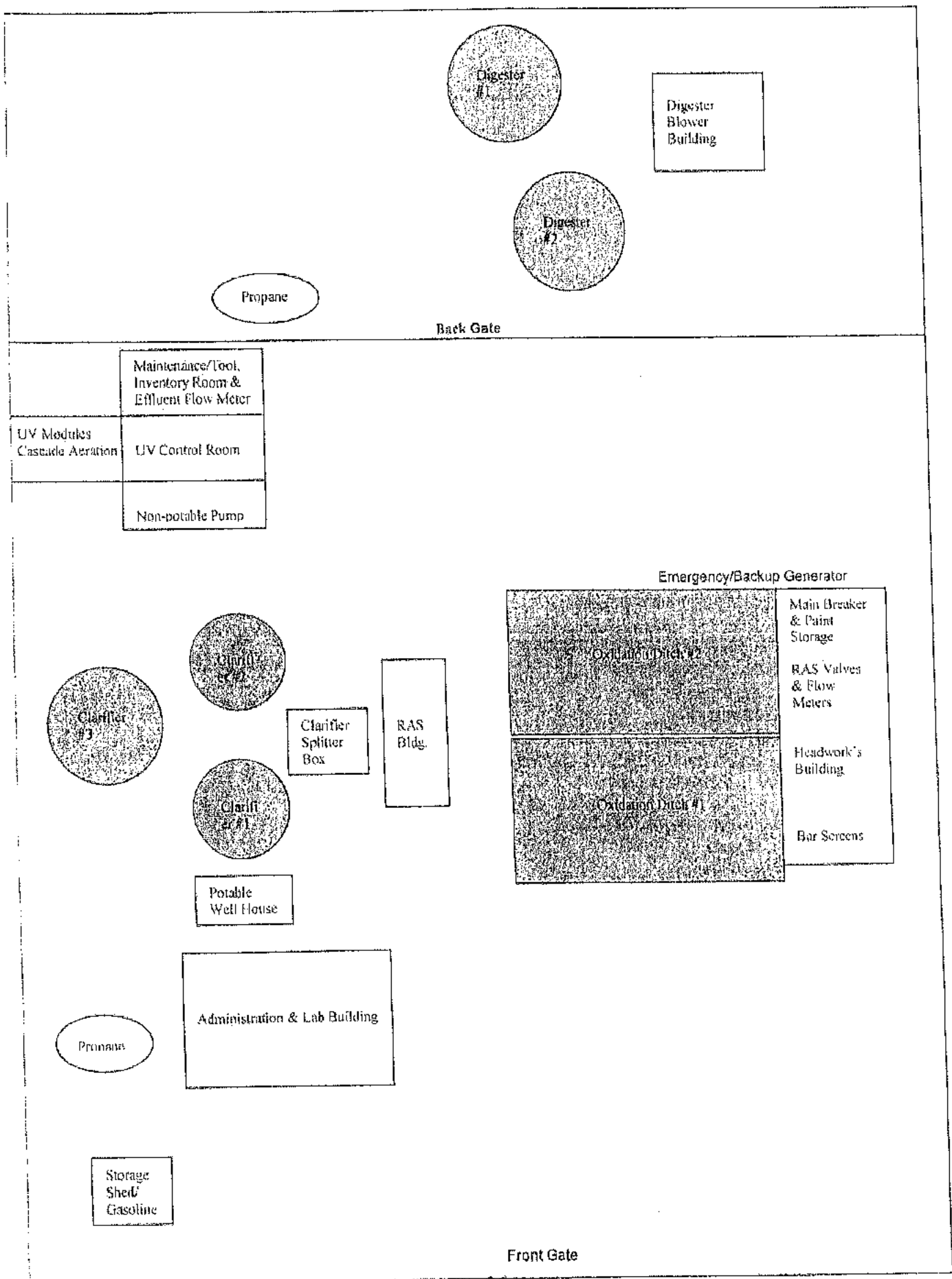
- Chevron Tube Grease
- Mystic tube Grease
- Hydraulic fluid
- Assorted cans spray paint
- Assorted cans building and grounds paint.
- Paint thinner / solvents

Storage Shed by Admin. Bldg.

- Gasoline
- Weed eater oil

There are two 500-gallon liquid propane tanks located on the property; one is north of UV building and one west of Admin. Bldg. There is a 700-gallon diesel tank mounted under the emergency/standby generator located at the headworks building beside the electrical room. There is a 100-gallon portable diesel tank located normally stored at the sludge digester building over the hill.

Facility Map



Appendix 3

Standard Conditions for NPDES Permits

Part 1 – General Conditions, Section B – Management Requirements, Part 2. Noncompliance Notification.

A. If, for any reason, the permittee does not comply with or will be unable to comply with any daily maximum effluent limitation specified in this permit, the permittee shall provide the Department with the following information, in writing within five (5) days of becoming aware of such condition: A description of the discharge and cause of noncompliance, and the period of noncompliance, including exact dates and times or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate and prevent recurrence of the non-complying discharge.

B. Twenty-four hour reporting. The permittee shall report any noncompliance, which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The Department may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

Appendix 4

Instructions for Daily Readings & Maintenance / Daily Rounds

Sludge Decant Lift Station (at digesters)

Turn both pumps to off position. Turn pump 1 to hand, walk over and observe operation of pump, pump vibration, pump noise, and visually check and watch water level to see if water level is dropping. Turn pump 1 back to auto. Repeat above procedure for pump 2.

Decant / Dewater Lift Station (at aeration basins)

Check operation of pumps by turning both pumps to off position. Turn pump 1 to hand, walk over and observe operation of pump by looking at the discharge going into aeration basin. Listen for pump vibration, pump noise. Record pump hours daily in Admin. Bldg.

RAS Pump Building

One way to check operation of pumps by going over to the headwork's building and look at the RAS flumes and use the RAS pinch valves to adjust flow according to which ditch is the heaviest or lightest. If you can't adjust with valve then your next step is to clean the pumps. Clean RAS pumps as needed or before each waste. Record pump hours daily in Admin. Bldg. office on the Honeywell data recorder.

Final Clarifiers

Check operation of clarifiers for rotation, motor vibration, noise, and heat. Check quality of effluent discharging over the weirs. Record sludge depth, wash scum collection troughs if necessary. Exercise #1 & #2 scum troughs down if they look like they haven't been working on auto. Go to control panel on clarifier and turn scum trough switch to manual, after exercising turn back to auto. Weekly checks on the clarifiers include checking oil levels in all gear reduction units, and checking condensation drains.

Oxidation Ditch 1 and 2

Check operation of rotors, aerators, and discharge weir. Run down rotors on Monday, Wednesday, and Friday. Weekly checks consist of, checking the oil levels in the gear reduction units and checking the oil breathers on them also.

Head Works Building

Check operation of grit paddle, start grit solids pump, and observe for proper operation. To check automatic bar screen, turn bar screen switch to hand and observe for proper operation, and wash bar screen debris as needed. Check and see if the high flow floats in bar screen channels for grease or debris buildup and clean as necessary. Check operation of influent sampler/refrigerator, and record temperature. Weekly checks includes checking the grit chamber and bar screen gearboxes for proper oil levels, checking both the Vac. & Compressor pumps for proper operation and checking the suction globe on the grit solids pump for any excess buildup in the globe and/or air lines. The suction globe needs to be cleaned on a monthly basis. Check what day PM is performed.

Blower Building

Check oil levels and position of valves before turning on blowers then check operation of blowers. Weekly PM consist of checking of oil levels and deflection of belts.

Outfall / UV Structure & Building

Go into UV control room and touch the screen on the front of the panel to check and see if all UV bulbs in the bank or banks that are on line at the time are working. If all are working and if there is no failures, then go out to outfall structure and visually inspect channels for any excess algae or debris buildup. Remove all banks on a monthly basis to clean and inspect bulbs, wipers, brushes and listen for any air leaks or any other types of odd noises. Also clean any algae buildup on the weir system at the end of the UV system.

Appendix 5

Permit Required Confined Spaces

The following list of confined spaces requires a permit to enter.

- Lake Ozark Influent Wet Well (right before flow meter)
- Osage Beach Influent Wet Well (right before flow meter)
- All Manholes
- Both Lift Station Wet Wells
- Both UV channel drain / valve pits

The safety protocol outlined in the company safety rules specifies that a confined space hazard assessment and rescue plan and a confined space entry permit both be completed and submitted to the safety coordinator whenever a permitted confined space is entered. The entry permit is included on the following pages for review; copies of the confined space hazard assessment form and the entry permit can be obtained from the safety coordinator.

CONFINED SPACE ENTRY PERMIT

Post Confined Space Permit at Job Site

Date: _____ Start Time: _____ Time Valid to: _____ (End of Shift)

Space to be Entered: _____ Exact Location: _____

Purpose of Entry: _____

Customer Name & Location: _____

Recognized Hazards of Space: ☐ Sewer Gas ☐ O₂ deficiency ☐ Other _____

GENERAL PREPARATIONS CHECKLIST: (Check All Items That Apply)

REQUIRED

VERIFIED COMPLETE

INITIAL

- | | |
|--------------------------|---|
| ☐ | Permanent Lines/Hoses Isolated |
| ☐ | Temporary Lines/Hoses Removed |
| ☐ | Space Cleaned & Purged |
| ☐ | GFCI for All Electrical Equipment |
| ☐ | Energy Sources Locked/Tagged/Tried |
| ☐ | Air Mover/Ventilation Provided |
| ☐ | Other Applicable Permits (Hot Work, etc.) |
| ☐ | Attendant Has Radio or Phone |
| ☐ | Safety Lighting |
| ☐ | Rescue Equipment Set Up at Site |
| ☐ | Safety Harness with Retrieval Line |
| ☐ | Respiratory Protection |
| ☐ | Additional PPE Required |
| ☐ | Continuous Air Monitor |
| ☐ | Confined Space Sign Visible |
| ☐ | Rescue Team On-Site |
| ☐ | Special Requirements (List in Comments) |

[illegible]

Comments:

Entrant-Attendant Communication (check applicable) ☐ Verbal ☐ Visual Signal ☐ Radio

ATMOSPHERIC TESTING RECORD

Meter Make/Model/Serial #:

[illegible]

ENTRY AUTHORIZATION: _____
Entry Supervisor Signature

**Customer Health & Safety Representative
(If Applicable)**

Rescue Team Status: ☐ Rescue Team Notified ☐ Team Needed at Space

PERMIT CANCELLATION (Check Only One)

☐ Work Complete, All Entrants/Tools Out, Ready For Re-Activation ☐ Work NOT Complete, Entrants Out

Entry Supervisor _____ Date _____ Time _____

Rescue & Emergency Services:

Plant Emergency #: _____

Nearest Phone: _____

Other Means of Summoning Help: _____

AUTHORIZED ENTRANTS:

Name (Print)	Signature	YN? witness air test (optional)	Entry Time	Exit Time

AUTHORIZED ATTENDANT:

Name	Signature	Department	Time

ENTRY SUPERVISOR:

Name	Signature	Department	Time

Return Expired Permit to Office

Appendix 6

Lockout-Tag out Instructions are found in site specific locations of each building inside the Facility.

There are hanging file holders with 3 ring binders in them found in each building with site specific instructions and pictures, for each piece of equipment that is located within that approximate location.

The main LOTO procedures manual is found in the Administration building as you walk in the main door. This manual has everything in the plant, that LOTO is required.

The Headwork's building LOTO binder is found in the Main Breaker room to the left of the door.

The UV building LOTO binder is found in the UV control room to the right.

The blower building LOTO binder is found to the left of the walk-in door beside electric panel.

After a piece of equipment has been determined in need of Lockout-Tag out devices you must fill out the Lockout / Tag out Permit before doing anything else. It must be approved by Supervisor or Plant Manager before doing any work. All required steps must be checked then verified complete, then the work can be started and completed.

All copies of LOTO permits must be kept and recorded on the annual log in the main LOTO manual in the Administration Building.



LOCKOUT/TAGOUT PERMIT

Date: _____ Start Time: _____ Time Valid to: _____ (End of Shift)

Equipment to be Isolated: _____ Exact Location: _____
Purpose of Isolation: _____
LOTO procedure used: _____

GENERAL PREPARATIONS CHECKLIST: (Check All Items That Apply)

REQUIRED

VERIFIED COMPLETE

INITIAL

- ☐ Alliance Lockout/ Tagout Devices Applied
- ☐ Temporary Lines/Hoses Removed/ Isolated
- ☐ Energy Sources Locked/Tagged/Tied
- ☐ Notification of Affected Employees
- ☐ Other Applicable Permits (Hot Work, etc.)
- ☐ Additional PPE Required
- ☐ Lockout/ Tagout Devices Visible
- ☐ Special Requirements (List in Comments)

☐
☐
☐
☐
☐
☐
☐
☐

Comments: _____

ISOLATION AUTHORIZATION:

Supervisor Signature _____

Customer Health & Safety Representative
(If Applicable) _____

AUTHORIZED EMPLOYEES:

Name (Print)	Signature

Return Expired Permit to Safety Coordinator

Appendix 7

ReCAP DEVIATION NOTIFICATION FORM

Date of Incident: Time: Division:

Location of deviation:

Type of deviation: ☐ W. Treatment ☐ Distribution ☐ W.W. Treatment ☐ Collections
Note: Double-click on checkbox and select 'Checked' under Default Value.

Description of deviation: ☐ SSO ☐ Bypass ☐ Pressure Loss ☐ Sample Analysis

SAMPLE TYPE & LIMIT	SAMPLE RESULT

How did we become aware of the issue:

Possible reason(s) for or event(s) leading to deviation:

Immediate corrective actions taken:

Further action planned to eliminate or reduce future incidents:

Other information or attachments:

Completed by: Title: Date Reported:

Who was notified?

Name	Title	Date	Time
Comments			

Completed form is to be filled out electronically and e-mailed with any other documentation through the Deviation Notification ReCAP mailbox no later than the next business day of the incident.

REPORT OF SANTARY SEWER OVERFLOW (SSO) OR WASTEWATER TREATMENT PLANT BYPASS

FACILITY INFORMATION	
PERMITTEE (MUNICIPALITY/DISTRICT & PLANT):	PERMIT NUMBER:
COUNTY:	PHONE NUMBER:

SSO OR BYPASS DETAILS	
a. Street Address/Landmark/Cross Street:	
b. Complaint Name & Telephone #:	
c. Start Date & Time:	End Date & Time:
d. Total Time:	Volume (Gallons):
e. Categories of SSO	
☐ Vandalism ☐ Power Outage ☐ Broken Sewer ☐ Inflow & Infiltration ☐ Plugged Sewer ☐ Equipment Failure Rain Inches _____ Manhole location # _____ ☐ Widespread Flooding ☐ Other _____	
f. Categories of STP Bypass	
☐ Head Works ☐ Aeration/Biological Treatment ☐ Digester ☐ Primary Basins ☐ Clarifiers ☐ Solids Handling/Drying Beds ☐ Other _____	
g. Strength of SSO/Bypass: ☐ Raw (Dry weather SSO or Influent)	
☐ Partially Treated Bypass or Wet weather SSO Was sampling performed? ☐ yes ☐ no	
Type of Samples Taken: ☐ BOD ☐ TSS ☐ Fecal ☐ Ammonia ☐ DO ☐ Other _____	

WATERCOURSE INFORMATION	
a. Name of Receiving Stream:	Length Affected:
b. Discharge Course	
☐ Runs on ground and absorbs into the soil. ☐ Ditch. Name of surface water it drains to: _____ ☐ Storm sewer. Name of surface water it drains to: _____ ☐ Surface water direct discharge: _____ ☐ Other, describe: _____	

CORRECTIVE ACTIONS/CLEAN UP	
a. ☐ Flushing ☐ Removing ☐ Chemical Application ☐ Other: _____	
b. Describe detailed actions taken to correct & clean up the SSO/Bypass and any follow up actions:	
CLEAN UP PERFORMED BY: _____	

REPORT PREPARED/SUBMITTED BY	
NAME (PRINTED):	TITLE:
SIGNATURE:	DATE:

**Lake Ozark / Osage Beach Joint Wastewater Plant
INVENTORY LIST
January 2022**

TOOLS		Purchased In
Item No.	Quantity & Item	2021
1	1 - Craftsman 3 drawer tool box	
2	1 - Craftsman 5 drawer tool box	
3	1 - Assortment SAE Allen wrenches	
4	1 - Assortment Metric Allen wrenches	
5	1 - 3/8 SAE T Allen wrench	
6	1 - Set 3/8 Allen wrench sockets 1/8 - 1/2	
7	1 - Set SAE & Metric nutdrivers in tool bag	
8	7 - SAE nutdrivers 3/16 - 1/2	
9	7 - Metric nutdrivers 5mm - 11mm	
10	5 - Torx screwdriver assorted sizes	
11	1 - Assortment of straight & Phillips screwdrivers	
12	1 - 1/2" straight screwdriver socket	
13	1 - 1/4" deep socket set 4mm - 14mm	
14	1 - 1/4" deep socket set 3/16 - 1/2	
15	1 - 1/4" shallow socket set 4mm - 13mm	
16	1 - 1/4" shallow socket set 5/32 - 1/2 w/ 2 & 3" extensions	
17	1 - 1/4" Ratchet	
18	1 - 40 piece 1/4 & 3/8 socket set, in RAS basement	
19	1 - 3/8" X 1/4" socket adapter	
20	1 - 3/8" deep & shallow socket set 3/8 - 3/4	
21	1 - 3/8" deep socket set 9mm - 19mm	
22	1 - 3/8" Craftsman socket set 3/8 - 13/16	
23	2 - 3/8" 1 1/2" extensions & 1 - 6" ext.	
24	1 - 3/8" Ratchet	
25	4 - 3/8" 6 point sockets 1/4 - 7/16	
26	2 - 3/8" spark plug sockets 5/8 & 13/16	
27	2 - 1/2" Ratchets & 1 set 1/2" extensions 2, 3 & 6"	
28	1 - 1/2" deep socket set 3/8 - 13/16	
29	1 - 1/2" socket shallow socket set 9mm - 21mm	
30	1 - 1/2" socket shallow socket set 7/16 - 1 1/4	
31	6 - KD brand 3/4" sockets, 1 3/8, 1 7/16, 1 1/2, 1 5/8, 1 13/16 & 2 3/4"	
32	1 - 3/4" Breaker bar & 16" extension, True craft	
33	1 - 10 piece ignition wrench set 4mm - 13mm	
34	1 - 10 piece ignition wrench set 5/32 - 7/16	
35	2 - Boxed end wrench's 1/2-9/16 & 5/8-11/16	
36	3 - 3/8, 4 - 7/16, 2 - 11/16, 2 - 3/4, 2 - 13/16, 2 - 7/8 combination wrenches	
37	4 - 15/16, 4 - 1", 3 - 1 1/16, 5 - 1 1/4 & 4 - 1 1/8 comb. wrenches	
38	3 - open end wrenches 7/16-17/32, 5/8-11/16, & 3/4-7/8	
39	1 - Set pm comb. Wrench's 1/4 thru 7/8 in pouch	
40	3 - snap ring pliers	
41	2 - pair channel lock pliers, 1 blue handle & 1 black	
42	2 - pair electrical channel lock pliers, 6 & 10"	
43	1 - set of left handed drill bits	

Lake Ozark / Osage Beach Joint Wastewater Plant
INVENTORY LIST
January 2022

TOOLS		Purchased In
Item No.	Quantity & Item	<u>2021</u>
44	6 - electrical screwdrivers, 3 straight & 3 philips head	
45	2 - wire strippers	
46	1 - pair lineman pliers	
47	1 - pair needle nose pliers	
48	1 - pair side cutters, 6"	
49	3 - 10" Vise grip pliers, 2 curved jaw & 1 straight	
50	2 - 6" Vise grip pliers, 1 curved & 1 needle jaw	
51	1 - yellow handle tin snips	
52	1 - 12" crescent wrench, Craftsman	
53	3 - pipe wrenches, 18", 24", & 36"	
54	1 - 10" Stanley level	
55	1 - 24" Craftsman level	
56	2 - 25' Task Force tape measures	
57	2 - 6" pocket metal rules	
58	1 - points file	
59	1 - file assortment	
60	1 - rasp file	
61	2 - Concrete trowel	
62	1 - feeler gauge	
63	1 - tool bag	
64	1 - ice pick	
65	1 - punch & chisel set	
66	1 - 2" C clamp & 2 - 4" C clamps	
67	2 - putty knives	
68	1 - parts brush	
69	1 - ball peen hammer	
70	1 - 4lb shop hammer	
71	1 - claw hammer	
72	1 - 10 lb sledge hammer	
73	1 - rubber mallet	
74	1 - hacksaw	
75	3 - wire brushes	
76	1 - tire gauge	
77	1 - 6" square	
78	2 - rag pullers	
79	1 - crow bar	
80	1 - garden rake	
81	1 - round point shovel	
82	1 - flat shovel	
83	1 - 10lb straight bar	
84	1 - pick	
85	1 - anti freeze tester	
86	1 - flat bar	

**Lake Ozark / Osage Beach Joint Wastewater Plant
INVENTORY LIST
January 2022**

TOOLS		Purchased In
Item No.	Quantity & Item	<u>2021</u>
87	1 - Craftsman 28 pc. tap & die set	
88	1 - Black & Decker drill & driver set	
89	1 - 7" carbide masonry drill bit set 3/16 - 3/4	
90	3 - masonry bits, 1/4, 5/16 & 3/8	
91	1 - Black & Decker metal drill bit set, 1/16 to 1/2 & HS bits assorted sizes	
92	2 - gear pullers, 1 large & 1 small	
93	1 - Black & Decker 3/8 variable speed drill	
94	1 - mini copper tubing cutter	
95	1 - PVC cutter	
97	1 - 1/2" Electric Impact Wrench	
98	1 - Sandblaster w/ 24ft of hose & 2 bags of blasting material	
99	1 - Hitachi hammer drill*	
SLUDGE TRUCK TOOLS		
100	1 - grease gun	
101	1 - 20 piece Stanley SAE Comb. end wrenches 1/4 - 7/8	
102	1 - Set Comb. End wrenches 8mm - 18mm	
103	1 - Rubber maid tool bag	
104	4 - Stanley flathead screwdrivers	
105	2 - Stanley phillips screwdrivers	
106	AC Delco T20x4" star screwdriver	
107	AC Delco 2x1 1/2" phillips screwdriver	
108	AC Delco 1/4"x1 1/2" slotted screwdriver	
109	13 oz. Wood handle claw hammer	
110	RayOVac industrial flashlight	
111	25' task force tape measure	
112	7 WR vise grip	
113	10 WR vise grip	
114	Stanley lineman pliers 84-113	
115	Stanley wire cutters 84-060	
116	Stanley crescent wrench 85-763	
117	1 - Set of wheel chocks	
118	1 - log chain	
119	1 - air hose	
120	1 - assortment Buse fuses	
MISCELLANEOUS EQUIPMENT		
121	1 - Hobart Stickmate 160i Stick Welder	1
122	1 - Ryobi 18 volt Drill, Circular Saw, Recip saw, Flashlight, Vacuum Combo Kit w/2 batteries	
123	1 - Millermatic Wire feed welder w/helmet & gloves	
124	1 - 10-3 50ft & 1 - 10-3 100ft Extension cord	
125	4 - metal lockers in men's restroom	
126	2 - metal lockers in women's restroom	
127	1 - plastic mop bucket w/wringer	
128	1 - Gorilla ladder MPX-22	

Lake Ozark / Osage Beach Joint Wastewater Plant
INVENTORY LIST
January 2022

MISCELLANEOUS EQUIPMENT

Purchased In
2021

<u>Item No.</u>	<u>Quantity & Item</u>
129	1 - 4' step ladder, fiberglass
130	1 - 6' step ladder, fiberglass
131	10' stepladder, wood
132	24' 300 lb rated extension ladder, aluminum
133	24' 300 lb. rated extension ladder, fiberglass
134	2 - set of plastic saw horses
135	1 - 6" x 10' suction hoses
136	2 - 6" x 25' suction hose
137	1 - 4" x 60' suction hose
138	1 - 4" x 15' discharge hose @ septic unloading station
139	1 - Schumacher battery charger model SE-82-6
140	1 - DieHard 12 volt automatic battery charger/engine starter model 28.71331
141	1 - 100' extension cord
142	1 - 50' extension cord
143	1 - 1 gallon plastic gas cans
144	2 - 5 gallon steel safety gas cans
145	1 - misc. log chains, headwork's tool room
146	3 - 50'x1 1/2" fire hoses with 2 nozzles
147	5 - Garden hoses
148	1 - mechanic creeper
149	1 - Craftsman gas leaf blower
150	1 - Craftsman 4 cycle weed eater
151	1 - cherry picker (engine hoist)
152	1 - 9 gallon portable air tank
153	1 - Campbell Hausfield 26 gallon air compressor
154	1 - CH air drill
155	1 - CH air ratchet
156	1 - CH air grinder
157	1 - CH air impact wrench
158	1 - CH air chisel w/4 chisels
159	1 - air tire inflator
160	1 - Pro-Arc oxy-acc torch kit & tanks
161	1 - Pro-Force 33 paint sprayer
162	1 - 15 gal 12 volt portable sprayer
163	1 - 60gal Ingersoll Rand in UV building
164	1 - 3 ea. grease gun
165	1 - Cowhbian 5" multi bench vise
166	3 - shop vac's
167	2 - drum dollies
168	1 - Commercial Elec. Amp meter, HDSA 500
169	1 - Commercial Elec. Multi meter, HDM 4100
170	2 - insulated fuse pullers, 1 large & 1 small
171	1 - GB circuit tester

**Lake Ozark / Osage Beach Joint Wastewater Plant
INVENTORY LIST
January 2022**

MISCELLANEOUS EQUIPMENT		Purchased In
<u>Item No.</u>	<u>Quantity & Item</u>	<u>2021</u>
172	1 - 3/8 hammer drill	
173	1 - Skil 14.4 drill kit, w/ battery & charger	
174	1 - Black & Decker bench grinder	
175	1 - Black & Decker hand grinder, 4 1/2"	
176	1 - 115V 3/8 VSR Drill/ Driver	
177	1 - propane torch, elec. Start	
178	1 - strap 1 ton come along	
179	2 - chain come alongs, 1 ton & 3 ton	
180	1 - cable come along, 1 ton	
181	1 - 2 ton floor jack	
182	1 - 12 ton high lift jack	
183	2 - yellow air hoses	
184	1 - 100gal. Portable Diesel fuel tank	
185	1 - Fluke T5-1000 Volt/Amp meter	
186	3 - 2 wheel wheel-barrows, 2 are being used for bar screen tubs	
187	1 - garden cart	
188	1 - Garden power 65ft, 5/8" Auto-Retractable Garden Hose reel	
189	1 - portable hand work light	
190	1 - portable work light stand w/ dual mounted lights	
191	3 - Strong Arm electric winches for clarifier skimmer baskets	
192	1 - Strongway electric hoist for lift station pumps	
193	1 - AMT 3" trash pump w/wheel kit	
194	1 - 3" 50ft & 1 - 30ft suction/discharge hose w/couplings	
195	1 - North Star 3000 PSI Steam and Hot Water Pressure Washer	
196	1 - Warn 120 volt Winch/Hoist for pulling UV channel basket	
197	1 - Chapin Homepro backpack sprayer	
OFFICE INVENTORY		
198	1 - wooden desk	
199	1 - metal desk	
200	4 - Office chairs	
201	3 - file cabinets, 1 - 4 drawer & 2 - 2 drawer	
202	1 - 3 shelf bookshelf	
203	1 - PC , w, speaker in monitor, keyboard, and surge arrest--DELL	
204	1 - MFC-L2685DW Brother copier / printer	
205	1 - conference table	
206	27 - folding steel chairs	
207	3 - Phones, 2 cradle style & 1 cordless	
208	1 - Fellowes paper shredder	
209	1 - Bissell vacuum cleaner	
210	1 - Emerson TV / VCR Combo (for training)	
211	1 - Emerson microwave	
212	1 - Magic chef refrigerator	
213	1 - Culligan water cooler	

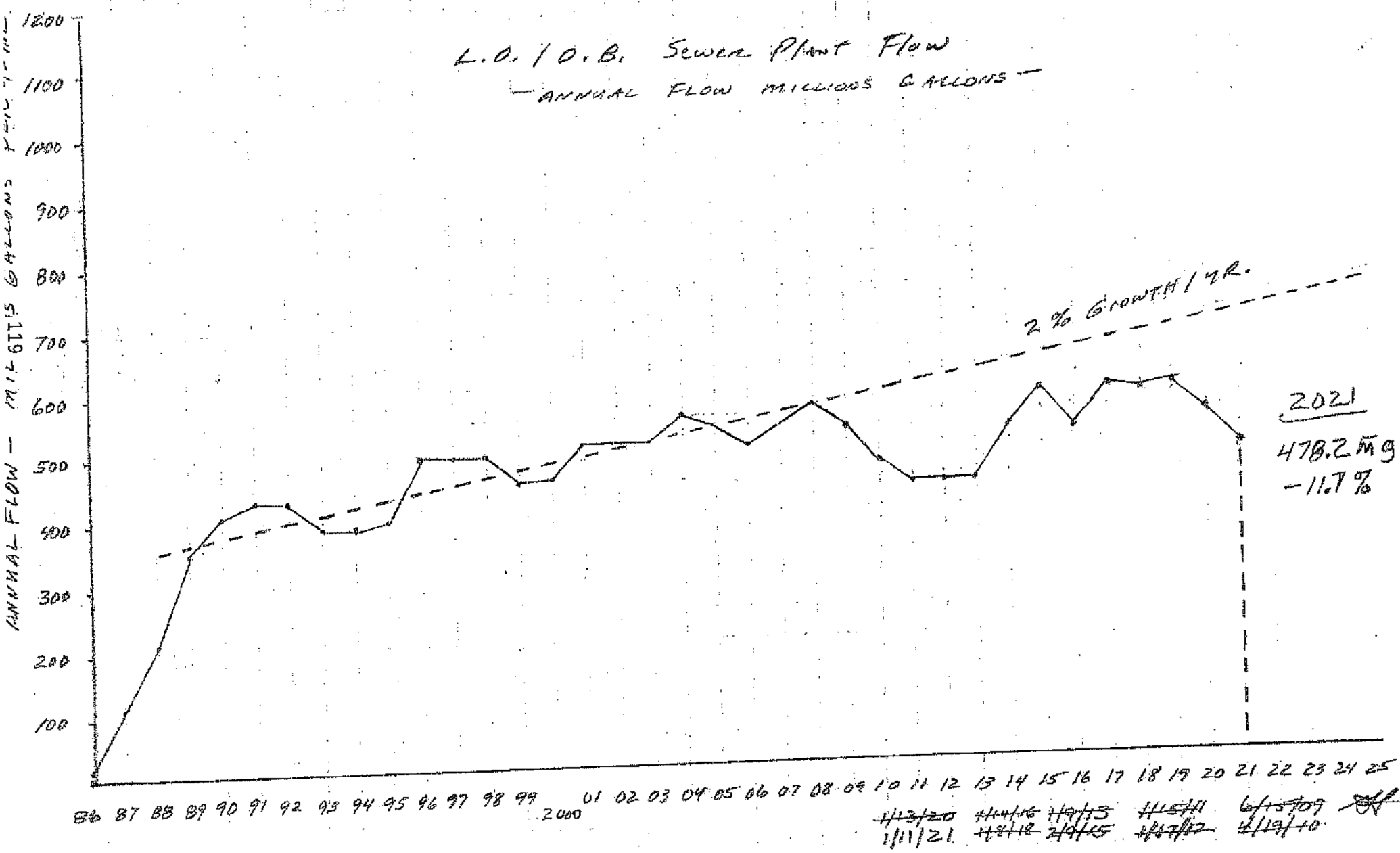
**Lake Ozark / Osage Beach Joint Wastewater Plant
INVENTORY LIST
January 2022**

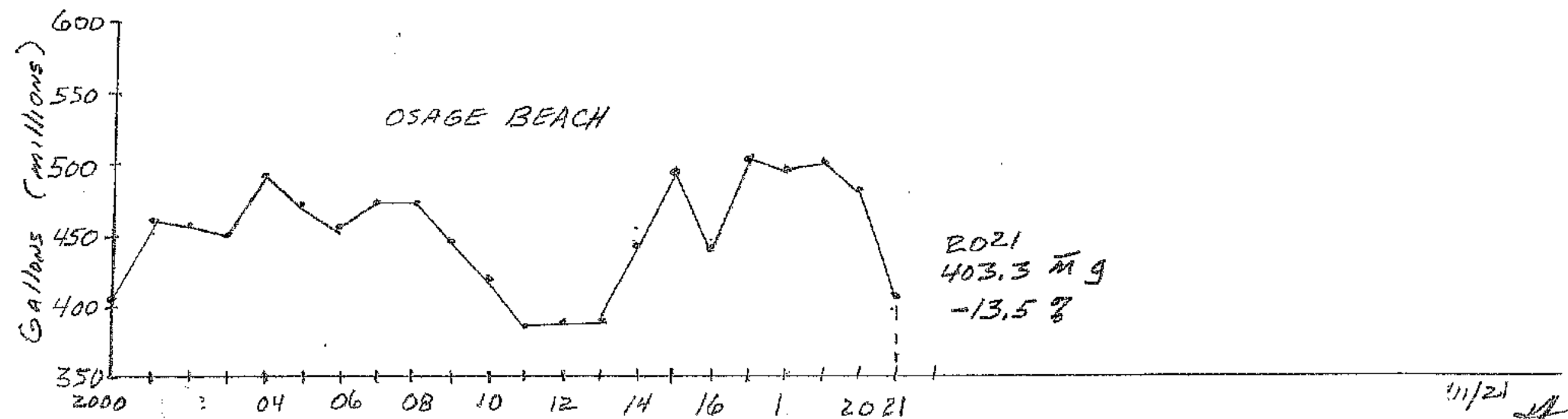
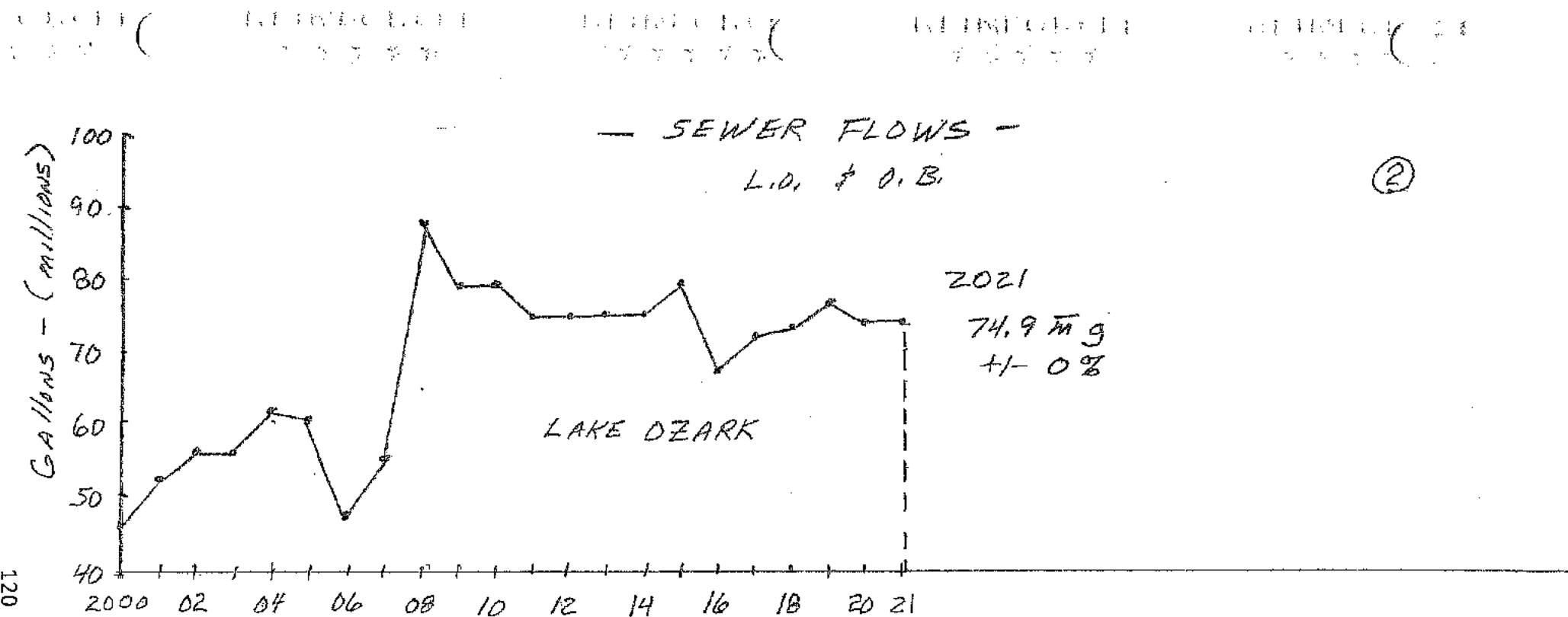
		Purchased In
		2021
CONSUMABLE MATERIALS		
214	2 - 500 Gallon propane tanks, w/ 795 gallons as of 1/7/22	
215	1 - 700 Gallon diesel fuel tank in Generator, w/ 700 gallons as of 1/7/22	
VEHICLE'S		
216	1 - TRYN SP-575X-1 Mini Pro Tailgate Spreader SN#190730300540SP-575X-1	
217	1 - 2018 Ford F-250 w/Knapplied snow blade vin# 1FTBF2B66JEC64283	
218	1 - 2022 Mack Granite Sludge Truck w/3600 gallon tank vin# 1M2GR2GC7NM028115	1
219	1 - John Deere Z915E ZTrak 54" Zero-Turn Mower	1
LABORATORY EQUIPMENT		
<u>Item No.</u>	<u>Quantity & Item</u>	
220	1 - OHAUS adventurer analytical balance	
221	1 - Orion & 1 no name brand bench top electrode arms	
222	1 - USA Bluebook electric stirrer	
223	3 - Isco Auto samplers, 1 - NI-CAD batteries, 1 small & 1 larger charger	
224	1 - Isco Auto sampler pump	
225	1 - Hach Sension+ MM340 Ammonia meter & probe	
226	1 - Hach HQ411D pH/mv meter & probe with stand	
227	1 - Allied stirrer and hot plate	
228	1 - Vector spotlight, for discharging Isco batteries	
229	2 - VWR ASTM certified / calibrated thermometers	
230	2 - Nalgene desiccators	
231	1 - muffle furnace-Therolyne	
232	1 - vacuum pump-Fisher	
233	1 - sterilizer-Electric Steno Clave	
234	1 - Incubator-Fisher ISO temp	
235	1 - drying oven-Fisher ISO temp oven	
236	1 - portable D.O. meter-YSI 550-A	
237	1 - BOD Incubator- Fisher low temp model 307	
238	1 - microscope-Micromaster	
239	1 - Lab refrigerator-Marvel Division	
240	2 - timers-West Bend	
241	1 - Hanna portable pH meter	
242	2 - Hach HQ40D meters, 1 with LBOD probe & 1 w/ Rugged LDO probe	
243	1 - Hach Distillation Glassware set for Ammonia	
244	1 - Thermo Hot plate for distillation	
245	1 - Igloo Ice Maker for Samplers	
246	1 - Frigidaire Ice Maker for Samplers	

**Lake Ozark / Osage Beach Joint Wastewater Plant
INVENTORY LIST
January 2022**

SAFETY EQUIPMENT		Purchased In
Item No.	Quantity & Item	2021
247	10 - Safety Glasses / Goggles	
248	2 - Face Shield	
249	2 - UV Face shields	
250	4 - Rubber Gloves	
251	100 - Disposable Face mask	300
252	200 - Disposable Nitrile Gloves	300
253	185 - pair disposable ear plugs	200
254	2 - Ear Protection muffs	
255	1 - Eye Wash Stations	
256	2 - Back Supports	
257	1 - Gas Detector / Monitor, portable RKI GX-3R with (Bump/Calibration kit)	
258	1 - Lock Out/Tagout Station	
259	2 - Full Body Harness	
260	1 - Lanyards & 1 spreader bar	
261	1 - Tripod, Winch and air machine	
262	3 - First Aid Kits	
263	6 - Fire Extinguishers, Plant	
264	1 - Fire Extinguishers, Office	
265	3 - Fire Extinguishers, Vehicles	
SPARE EQUIPMENT & PARTS		
266	5 - electrical contact relay	2
267	2 - 3 phase monitors	
268	3 - Allen Bradley PLC I/O Boards for UV control panel	
269	79 - UV bulbs	30
270	76 - UV quartz sleeve	20
271	3 - UV ballast	
272	2 - UV air cylinder rebuild kit & 2 outer bands	
273	6 - New UV air cylinder	4
274	1 - UV air cylinder hose, approx. 20 ft.	
275	15 - Wiper Rings	
276	1 - UV bulb cord w/6 bulb sockets	
277	1 - Blue Poly tubing for outdoor UV panel 5ft 6mm & 5ft 10mm	
278	4 - UV sensor brushes	
279	1 - blower for digesters	
280	1 - Carboy for BOD water	
281	6 - Fluorescent bulb ballast & 7 - T-8 bulbs	5
282	1 - quantity of assorted 3/4, & 1" PVC pipe fittings	
283	1 - quantity of assorted nuts & bolts	
284	1 - Transtector ACP-100 surge suppressor	
285	1 - Transtector PDS 1 tube surge protector	
286	1 - Alternating relay for lift stations	
287	9 - Ice cube relays for UV system	10
288	3 - Thermal overloads for aerator MDP	

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L.O. - O.B. SEWER PLANT GROWTH / CAPACITY PROJECTION

3

(X) July flow average 3.0 M g/days

* THE MAJOR ASSUMPTION (IN PROJECTING FUTURE GROWTH FROM THE PAST) IS YOU DO NOT EXPAND THE GEOGRAPHIC COLLECTION AREA. *

