

**OSAGE BEACH / LAKE OZARK
JOINT SEWER BOARD MEETING
AGENDA
JANUARY 19 @ 4:00 p.m.
LAKE OZARK CITY HALL**

1. CALL TO ORDER

2. ROLL CALL

Mayor, Osage Beach, John Olivarri
Mayor, Lake Ozark, Gerry Murawski
City Administrator, Osage Beach, Jeana Woods
City Administrator, Lake Ozark, Dave Van Dee
Alderman, Osage Beach, Phyllis Marose
Alderman, Lake Ozark, Judy Neels
Public Works Director, Lake Ozark, Matt Michalik
Resident Member, Mr. Gary Hamner

3. MINUTES

Page Numbers

Regular Meeting: November 17, 2020

3-4

4. REPORTS

Bill List	5- 21
Revenue Budget Analysis	23, 26
Expenditure Budget Analysis	24, 27
Income & Expense Summary	25, 28

November/December Alliance Report of Operations	29- 66
---	---------------

Approval of Flow Charts November 2020
December 2020

5. OLD BUSINESS

A. Board Representative update	
B. Continued discussion regarding a new sludge truck and another alternative.	
C. Discussion to extend the clarifier project with Landco Enterprises	67

6. NEW BUSINESS

A. Discussion for Alliance Water Resources, Base fee- Special Consideration	69-70
B. Discussion and approval of the updated plant inventory and ERP	71-111

7. ADDITIONAL DISCUSSION ITEMS

8. ADJOURNMENT

THE NEXT MEETING WILL BE FEBRUARY 16, 2021 4:00 PM @ LAKE OZARK CITY HALL

**LAKE OZARK-OSAGE BEACH
JOINT SEWER BOARD**
Meeting Minutes – November 17, 2020

CALL TO ORDER:

Mayor John Olivarri called the meeting to order at 4:00 pm on Tuesday, November 17, 2020 at Lake Ozark City Hall.

ROLL CALL:

Mayor, Osage Beach, John Olivarri- Present
Mayor, Lake Ozark, Gerry Murawski - Present
City Administrator Osage Beach, Jeana Woods - Present
City Administrator Lake Ozark, Dave Van Dee – Present
Alderman Osage Beach, Phyllis Marose- Absent
Alderman Lake Ozark, Judy Neels- Present
Public Works Director Lake Ozark, Matt Michalik – Absent
Resident Member, Mr. Gary Hamner - Present

MINUTES:

Mayor Murawski motioned to approve the meeting minutes of October 20, 2020 his motion was seconded by Alderman Neels and passed unanimously.

REPORTS:

The October Bill list and Revenue Budget, Expenditure Budget Analysis, Income & Expense Summary and Check Registers and Bank Statements were reviewed. A Motion was made by Resident Member Hamner to approve the documents and pay the bills. His motion was seconded by City Administrator Woods and was passed unanimously.

Alliance Report of Operations: The average daily incoming flow for October was 1.278 mgd. We had 5.8 inches of precipitation measured at the WWTP.

Operationally, the plant's discharge was excellent, with an effluent monthly average BOD of 1.7 mg/l and TSS of 1.7 mg/l respectively for October, which represents a 98.8% or better removal.

The MLSS average for both aeration basins was 5,198 mg/l. The total dry weight sludge inventory for October totaled 277,578 pounds. 45 loads or 166,500 gallons of Bio solids was applied in October. There were 16 tanker loads or 32,000 gallons of septage received for the month.

APPROVAL OF FLOW CHART

Motion was made by City Administrator Woods to approve the Flow Chart for October. Her motion was seconded by City Administrator Van Dee. Unanimous approval, motion passed.

OLD BUSINESS:

- A. Per Gary Hutchcraft the Headworks roof project is complete and they will be installing the gutters this week.
- B. Karri Bell discussed the added amounts for the budget. After a brief discussion with the board a motion was made to approve the budget amendment by Mayor Murawski. His motion was seconded by City Administrator Van Dee. Unanimous approval, motion passed.
- C. Gary Hutchcraft stated he got some prices for a new sludge truck. The first was from Stahly from Bloomington, IL. They build the trucks with all the options for \$221,873. The second was from Irwin Diesel in Barnett, Mo. They priced it at \$197,500 with a \$15,000 trade in for the old truck. The cost after trade in would be \$182,500. Mayor Olivarri asked from a budget standpoint would it be better to push the basin out to the following year and get a sludge truck. Mayor Olivarri suggest budgeting for \$200,000 so if we decide to get the sludge truck then it will already be in the budget. After a brief overview and no other concerns or questions from the board a motion to approve the budget with the proposed changes was made by Alderman Neels, her motion was seconded by Mayor Murawski. Unanimous approval, motion passed.

NEW BUSINESS:

ADDITIONAL DISCUSSION ITEMS:

ADJOURNMENT:

With no further business to discuss, the meeting adjourned at 4:28 pm.

Approved on:

Mayor, John Olivarri

City Collector, Trisha Kane

JOINT SEWER BOARD
BILL LIST
JANUARY 19, 2021

OPERATING FUND BILLS PAID PRIOR TO BOARD MEETING:	\$	38,117.13
OPERATING FUND BILLS TO BE PAID:	\$	36,993.42
EQUIPMENT REPLACEMENT FUND BILLS PAID PRIOR TO BOARD MEETING:	\$	34,296.79
EQUIPMENT REPLACEMENT FUND BILLS TO BE PAID:	\$	7,341.60
TOTAL	\$	116,748.94

OPERATING FUND BILLS PAID PRIOR TO BOARD MEETING:

Account	Check	Paid To:	Description:	Amount:
4176	346	AT&T	Phone October	\$ 81.60
4000	348	Equipment Replacement Fund	Payment into ER Fund	\$ 5,967.00
4020	349	Majestic Franchising	Cleaning December	\$ 196.17
4020	350	D.O.C. Inc.	378106 Grease for elec motors	\$ 31.44
4020	351	Menards	4355 8' T-Post	\$ 22.36
4020	351	Menards	4990 Tarp, Cultivator	\$ 53.96
4150	352	Clark Tire Co.	127989 Tires for Ford F250	\$ 775.00
4150	353	Bledsoe Auto	110320 Tow	\$ 394.00
4150	353	Bledsoe Auto	112020 Tow	\$ 316.00
4170	354	Alliance Water Resources, Inc.	December	\$ 25,465.00
4175	355	Ameren MO	11673321	\$ 4,555.08
4175	355	Ameren MO	98041275	\$ 178.98
4176	356	AT&T	Phone October	\$ 80.54
				\$ -
			TOTAL	\$ 38,117.13

OPERATING FUND BILLS TO BE PAID:

Account	Check	Paid To:	Description:	Amount:
4000	357	Equipment Replacement Fund	Payment into ER Fund	\$ 5,967.00
4020	358	Majestic Franchising	Cleaning January	\$ 196.17
4020	359	Catalyst Elect.	12464 Repair Heater in RAS	\$ 270.00
4020	360	Lakeland Oil Co. LLC	87307 Fuel for Generator	\$ 701.52
4150	361	Menards	5890 Diesel Fuel Additive	\$ 9.99
4170	362	Alliance Water Resources, Inc.	January	\$ 25,720.00
4175	363	Ameren MO	11673321	\$ 3,869.23
4175	363	Ameren MO	98041275	\$ 140.27
4176	364	AT&T	Phone October	\$ 80.54
4176	365	Republic	January	\$ 38.70
				\$ -
			TOTAL	\$ 36,993.42

EQUIPMENT REPLACEMENT FUND BILLS PAID PRIOR TO BOARD MEETING:

Account	Check	Paid To:	Description:	Amount:
4000	1053	Ovivo USA, LLC	Parts Ducking Skimmer Arm #2	\$ 1,155.56
4000	1054	Above & Beyond Roofing	Headworks Bldg	\$ 31,650.00
4000	1055	USA Blue Book	429967 Replacement Bottles	\$ 391.23
4000	1056	GLW	Ducking Skimmer Arm	\$ 1,100.00
				\$ -
			TOTAL	\$ 34,296.79

EQUIPMENT REPLACEMENT FUND BILLS TO BE PAID:

Account	Check	Paid To:	Description:	Amount:
4000	1058	JCI Industries, Inc.	8206191 Replace Pump	\$ 6,759.00
4000	1058	JCI Industries, Inc.	8206192 Pump Repair	\$ 480.00
4000	1059	Ovivo USA, LLC	Parts Ducking Skimmer Arm #2	\$ 102.60
			TOTAL	\$ 7,341.60

THIS PAGE INTENTIONALLY LEFT BLANK

(573) 874-8080 Fax (573) 443-0833

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

Invoice No:	9180
Invoice Date:	1-Dec-20
Customer No:	20220
Terms:	30 days

7



- Pay by phone: 1.866.265.3729
- Pay by mail: PO Box 88068, Chicago, IL 60680-1068
- Pay online or manage your account: AmerenMissouri.com
- Customer Service: 1.877.426.3736

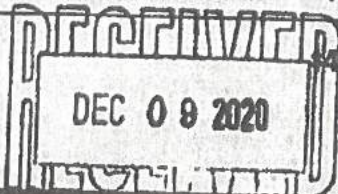
FOCUSED ENERGY. For Life.

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

Current Detail for Statement 12/09/2020

Total Electric Charges **\$4,555.08**

Total Amount Due **\$4,555.08**



AMOUNT DUE \$4,555.08

Due Date 01/04/2021

Amount After Due Date \$4,623.41

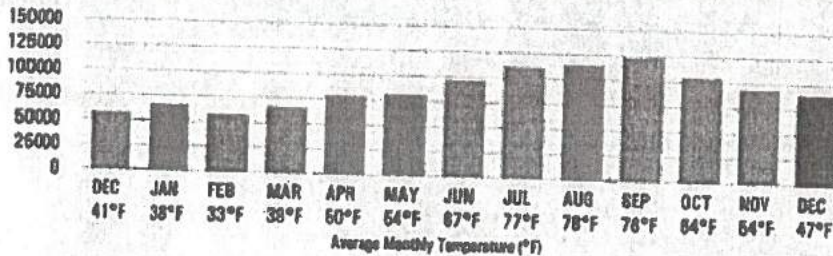
Previous Statement \$5,020.57

Total Payments \$5,020.57

Payment Received. Thank You.

Electric Usage History

Electric Usage in Kilowatt Hours (kWh)



Electric Usage Summary (kWh)

So far this year, you're using **6.4% more** than last year.

2019 **1,009,760 kWh**

2020 **1,074,880 kWh**

Usage from Jan-Dec for 2019 & 2020

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#: 4175

Signature: [Signature]

Date: 12/9/20

Keep this portion for your records.

See next page for service details.

Page 1 of 4



☐ Check if you have address changes on back.

Please return this portion with your payment.

Amount Due	Due Date
\$4,555.08	January 04, 2021
Delinquent Amount After Due Date	Account Number
\$4,623.41	4580005832

Amount Enclosed \$ _____

>000371 6465197 0003 092139 102

ALLIANCE WATER RESOURCES INC
 PO BOX 1886
 LAKE OZARK, MO 65049-1886

AMEREN MISSOURI
 PO BOX 88068
 CHICAGO IL 60680-1068

40600000 0045800058302 000004555080 000004555080



- Pay by phone: 1.888.268.3729
- 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 11/04/2020 - 12/07/2020 (33 days)

Electric Meter Read

METER NUMBER	SERVICE FROM TO	NO DAYS	USAGE TYPE	READING TYPE	CURRENT READING	PREVIOUS READING	READING DIFFERENCE	MULTIPLIER	USAGE
11873321	11/04 - 12/07	33	Total kWh	Actual	83708.0000	83154.0000	554.0000	180.0000	88840.0000
11873321	11/04 - 12/07	33	Peak kW	Actual	0.0000	0.0000	0.0000	180.0000	141.8000

Usage Summary

Total kWh	88840.0000	Peak kW	141.8000
Total Billing Demand	141.8000	October Winter Base kW	178.2000
Winter Base Demand	141.8000	Base kWh Ratio	1.0000
Base kWh (HUD)	88840.0000	Seasonal kWh (HUD)	0.0000

Rate 3M Large General Service

DESCRIPTION	USAGE	UNIT	RATE	CHARGE
Seasonal Energy Charge	0.00	kWh	\$ 0.03580000	\$0.00
Demand Charge	141.80	kW	\$ 2.00000000	\$283.20
Base Energy Charge / Hours Used	21,240.00	kWh	\$ 0.06080000	\$1,283.52
Base Energy Charge / Hours Used	28,320.00	kWh	\$ 0.04520000	\$1,280.08
Base Energy Charge / Hours Used	38,080.00	kWh	\$ 0.03580000	\$1,381.26
Customer Charge				\$95.28
Fuel Adjustment Charge	88,840.00	kWh	\$ 0.00189000	\$167.53
Energy Efficiency Investment Charge	88,840.00	kWh	\$ 0.00383900	\$340.29
Renewable Energy Adjustment	88,840.00	kWh	\$ 0.00044000	\$39.00
Total Service Amount				\$4,555.08
Total Electric Charges				\$4,555.08

Payments Since Previous Statement

DATE RECEIVED	AMOUNT
November 23, 2020	\$5,020.57

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
888.268.3729



IN PERSON
FIND A PAY STATION AT
[AMERENMISSOURI.COM/
PAYSTATION](http://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

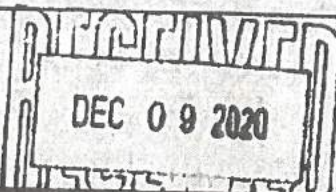
FOCUSED ENERGY. For Life.

Account Number **5580005820**
 Customer Name **ALLIANCE WATER RESOURCES INC**
 Service Address **3 ANDERSON RD**
LAKE OZARK, MO 65049

Current Detail for Statement 12/09/2020

Total Electric Charges **\$178.98**

Total Amount Due **\$178.98**



AMOUNT DUE \$178.98

Due Date 01/04/2021

Amount After Due Date **\$181.88**

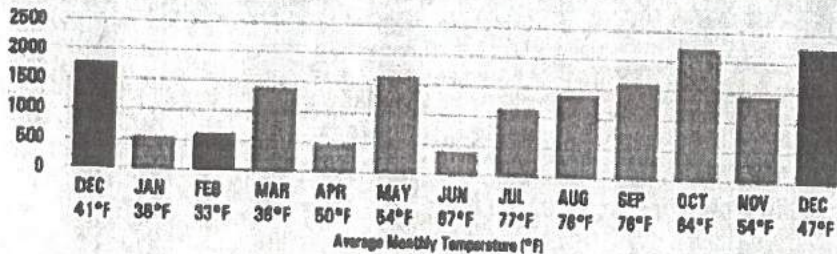
Previous Statement **\$134.67**

Total Payments **\$134.67**

Payment Received: Thank You.

Electric Usage History

Electric Usage in Kilowatt Hours (kWh)



Electric Usage Summary (kWh)

So far this year, you're using **1.4% less** than last year.



Usage from Jan-Dec for 2019 & 2020

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#: 4175

Signature: [Signature]

Date: 12/9/20

Keep this portion for your records.

See next page for service details.

Page 1 of 4



☐ Check if you have address changes on back.

Please return this portion with your payment.

Amount Due	Due Date
\$178.98	January 04, 2021
Delinquent Amount After Due Date	Account Number
\$181.88	5580005820

Amount Enclosed \$ _____

>000092 6465197 0002 072137 102

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

AMEREN MISSOURI
 PO BOX 88068
 CHICAGO IL 60680-1068

90633000 0055800059200 000000178980 000000178980



- 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 11/04/2020 - 12/07/2020 (33 days)

Electric Meter Read

METER NUMBER	SERVICE FROM - TO	NO. DAYS	USAGE TYPE	READING TYPE	CURRENT READING	PREVIOUS READING	READING DIFFERENCE	MULTIPLIER	USAGE
88041276	11/04 - 12/07	33	Total kWh	Actual	21103.0000	20878.0000	225.0000	10.0000	2250.0000
88041276	11/04 - 12/07	33	Peak kW	Actual	6.1370	6.0000	0.1370	10.0000	61.3700

Usage Summary

Total kWh	2250.0000	Winter Base kWh	1600.0000
Current Base kWh	1600.0000	Seasonal kWh	850.0000

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

Threshold - Peak Demand

DESCRIPTION	USAGE	UNIT	RATE	CHARGE
Base Energy Charge	1,600.00	kWh	@ \$ 0.07780000	\$124.84
Seasonal Energy Charge	850.00	kWh	@ \$ 0.04490000	\$29.19
Customer Charge				\$10.89
Fuel Adjustment Charge	2,250.00	kWh	@ \$ 0.00189000	\$4.25
Energy Efficiency Investment Charge	2,250.00	kWh	@ \$ 0.00374300	\$8.42
Renewable Energy Adjustment	2,250.00	kWh	@ \$ 0.00044000	\$0.99
Total Service Amount				\$178.98
Total Electric Charges				\$178.98

Payments Since Previous Statement

DATE RECEIVED	AMOUNT
November 23, 2020	\$134.67

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](http://AMERENMISSOURI.COM/PAYSTATION)



ONLINE
CREDIT CARD



MAIL
STUB & CHECK



Worldwide Experts in Water Treatment
 Ovivo USA, LLC
 4246 Riverboat Road, Suite 300
 Salt Lake City, UT 84123
 Phone: (801)931-3000
 Fax: (801)931-3080

REMIT TO VIA CHECK

Ovivo USA, LLC
 P.O. Box 673076
 Detroit, MI 48267-3076

REMIT TO VIA WIRE

Comerica Bank
 Comerica Bank Center
 411 West Lafayette
 Detroit, MI 48226
 Account #: 1851855104
 Routing #: 072000088
 SWIFT #: MNBDUS33
 Telex: 3772134 MNB INTL DET

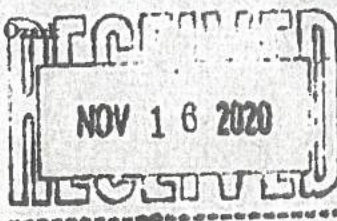
INVOICE NO

8479695

Page: 1 of 2

Date: 11/09/2020

B 18908
 I Joint Sewer Board of Lake Ozark
 L P.O. Box 1985
 L Attn: Accounts Payable
 Lake Ozark MO 65049
 T USA
 O



S 1
 H Gary Hutchcraft
 I Lake Ozark Wastewater Treatment plant
 P 3 Anderson Road
 Lake Ozark MO 65049
 T USA
 O

Order		Customer PO		Ship Via		Terms		Currency
SSW0012030		Verbal Gary		Freight Allowed		Net 30 days		USD
Line	Item/Description	Qty Ordered	Qty Shipped	Qty Back Ord	U/M	Unit Price	Extended Price	

1	22990A78A WASHER, SKIMMER SUPPORT, PVC Date Shipped: 11/06/2020	4.00	4.00	0.00	EA	41.6700	166.68	
2	895100A BEARING, SKIMMER, PVC, 2-7/16" ID (2 HALVES) Date Shipped: 11/06/2020	4.00	4.00	0.00	EA	187.5400	750.16	
3	23102A93A U-BOLT 304 SS 7 X 2 15/16 Date Shipped: 11/06/2020	4.00	4.00	0.00	EA	25.8700	103.48	
4	23225A96A U-BOLT, WITH HEX NUT, 304SS Date Shipped: 11/06/2020	4.00	4.00	0.00	EA	11.2100	44.84	
5	698540 FLAT HEAD 5/8"-11NC X 2 1/2" HDG Date Shipped: 11/06/2020	8.00	8.00	0.00	EA	10.7800	86.24	
6	698541 NUT HEX 5/8"-11NC HDG Date Shipped: 11/06/2020	8.00	8.00	0.00	EA	0.5200	4.16	



Worldwide Experts in Water Treatment
 Ovivo USA, LLC
 4246 Riverbent Road, Suite 300
 Salt Lake City, UT 84123
 Phone: (801)931-3000
 Fax: (801)931-3080

REMIT TO PAY CHECK

Ovivo USA, LLC
 P.O. Box 673076
 Detroit, MI 48267-3076

REMIT TO PAY WIRE

Comerica Bank
 Comerica Bank Center
 411 West Lafayette
 Detroit, MI 48226
 Account #: 1851855104
 Routing #: 072000096
 SWIFT #: MNBDUS33
 Telex: 3772134 MNB INTL DET

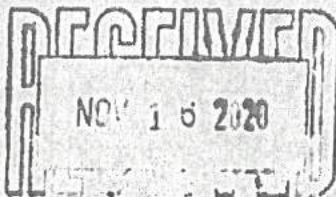
INVOICE NO

84-79695

Page: 2 of 2

Date: 11/09/2020

B 18908
 I Joint Sewer Board of Lake Ozark
 L P.O. Box 1985
 L Attn: Accounts Payable
 Lake Ozark MO 65049
 T USA
 O



S I
 H Gary Hutchcraft
 I Lake Ozark Wastewater Treatment plant
 P 3 Anderson Road
 Lake Ozark MO 65049
 T USA
 O

Order		Customer PO		Ship Via		Terms		Currency
SSW0012030		Verbal Gary		Freight Allowed		Net 30 days		USD
Line	Item/Description	Qty Ordered	Qty Shipped	Qty Back Ord	U/M	Unit Price	Extended Price	

Please submit purchase order to:

Your point of contact is:
 Miles Wilhelm
 Sedimentation Rebuild Specialist
 Email: miles.wilhelm@ovivowater.com
 Phone: 801-931-3319
 Cell: 801-413-6677
 Fax: 801-931-3080

REPLACEMENT PARTS

FOR DUCKING SKIMMER ARM
 CLARIFIER #2

GL Acct#: 4000

Signature: *Gary Hutchcraft*

Date: 11/16/20

WE HEREBY CERTIFY THAT THESE GOODS WERE PRODUCED IN COMPLIANCE WITH ALL APPLICABLE REQUIREMENTS OF SECTION 6, 7, & 12 OF THE FAIR LABOR STANDARDS ACT AS AMENDED AND REGULATIONS AND ORDERS OF THE UNITED STATES DEPARTMENT OF LABOR ISSUED UNDER SECTION 14 THEREOF.
 MATERIAL RETURN POLICY: WRITTEN AUTHORIZATION IS REQUIRED FOR ALL RETURNED MATERIAL. MATERIAL MUST BE RETURNED F.O.B. TO OUR PLANT OF ORIGIN.

Sales Amount	1,155.56
Misc Charges	0.00
Freight	0.00
Sales Tax	0.00
	0.00
Prepaid Amount	0.00
Total	1,155.56

ABOVE & BEYOND

ROOFING SERVING LAKE OF THE OZARKS

1212 Spring Valley Rd * Osage Beach, MO 65065

Office: (573) 302-0354 * Fax: (573) 302-7472

Property Address:

Lake of the Ozarks Waste Water Treatment Plant

Sewage Treatment Bldg

3 Anderson Rd.

Lake Ozark, MO..

573-365-0455

ghutchcraft@alliancewater.com

Date

12/2/2020

202010375

Payment Terms

NET 7

Project:**Description:**

Removed 1 layer existing metal, parapet wall caps and counter flashing. Installed 24 gauge 3' R-Loc (exposed fastener), high temp non-granulated self-adhered ice & water shield, ridge cap, drip edge, rake trim, parapet wall cap, headwall metal, side wall metal and counter flashing.

Installed 6" aluminum gutters and 3x4 downspouts

Installed fascia

Replaced (5) sheets of bad decking at \$50.00 per sheet

Installed 6" leaf guards

GL Acct#: 4000

Signature: [Signature]

Date: 12/2/20

Qty.:**Total:**

\$27,600.00

\$2,400.00

\$1,000.00

\$250.00

\$400.00

HEADWORKS BLDG. RE-ROOF PROJECT

Price includes all labor, materials, clean up and dump

Labor warranty to match manufacture warranty

All warranty is permanently excluded if not paid in full within 90 days

We would appreciate your feed back

Please visit one of our pages on Facebook, Google or Angie's List and leave us a comment or review.

Thank You!!!

Total:

\$31,650.00

Pd.:**Balance Due:**

\$31,650.00

Payments past due may be subject to a 1.5% fee per month until paid, including cost of collection & attorney fees. A \$60.00 fee will be charged for returned checks. *Visa/MasterCard accepted with an additional 2% fee*

Manager/Owner: _____

Date: _____

Acceptance of Proposal: all above prices, specifications & conditions, included but not limited to the terms on the reverses of this page, are satisfactory & are hereby accepted. You are authorized to do the work as specified. Payments will be made as outlined above. Member of local Chambers of Commerce

Authorized Signature: _____

Date: _____

Licensed, Work Comp & Liability Insurance

We are not responsible for T.V. antennas, satellite or internet dishes or skylight leaks that are not replaced at the time of roof replacement.



REPAIR ORDER

GLW

536 Co. Rd. 501
Jefferson City, MO 65101
Telephone 573-680-3957

NAME	Garrett Service Board			DATE	12-4-80
ADDRESS	P.O. Box 1985			CUSTOMER ORDER NO.	
CITY	PHONE	TRUCK NO.			
State	Zip	65049	LICENSE NO.	SPEEDOMETER	
MAKE	MODEL	YEAR	SER. NO.	MTR. NO.	
REPAIR ORDER INSTRUCTIONS					
OPER NO.	Tax # 13490679				
Labor's Repair Charge Part 640.00					
REPLACEMENT DUCKING SKIMMER ARM					
GL Acct #: 4000					
Signature: <i>[Signature]</i>					
Date: 12/4/80					

CITY	PART NO.	DESCRIPTION	LIST	SALE AMOUNT
		Mechanical + Bucket		210.60
		2 1/2" Pipe + Fitter		
		2 Standalone Steel Bolt + Nut		
		4 3/8 x 2 1/2 Bolt + Nut		234.60
		4 3/8 x 3 Bolt + Nut		
		6 3/8 Washers		
		Sand + Sand Blaster		
RECEIVED DEC 04 1980 1501 E. 15TH				
ADDITIONAL PARTS SEE LIST ON BACK →				
PARTS TOTAL →				445.20
OUTSIDE WORK				PRICE
OUTSIDE WORK TOTAL →				

I hereby authorize the above repair work to be done along with the necessary material, and hereby grant you and/or your employees permission to operate the car or truck herein described on streets, highways or elsewhere for the purpose of testing and/or inspection. An express mechanic's lien is hereby acknowledged on above car or truck to secure the amount of repairs thereto.

X

NOT RESPONSIBLE FOR LOSS OR DAMAGE TO CAR OR ARTICLES LEFT IN CARE OF MECHANIC IN CASE OF FIRE, THEFT OR ANY OTHER CAUSE BEYOND OUR CONTROL.

OIL AND GREASE	PRICE
GEAR LUBE	
QTR. OIL	
LBS. GREASE	
TOTAL OIL AND GREASE	

F.S.	PHONE WHEN READY	YES	NO
	TOTAL LABOR	640.00	
	TOTAL PARTS	445.20	
	MACHINE EARNINGS		
	OIL & GREASE		
	Freight	14.80	
	TAX		
	TOTAL AMOUNT	1100.00	

(573) 874-5080 Fax (573) 443-0833

Osage Beach, MO 65065

Terms: 30 days

16



- 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: 1.877.426.3738

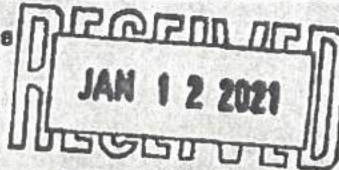
FOCUSED ENERGY. For life.

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

Current Detail for Statement 01/12/2021

Total Electric Charges **\$3,869.23**

Total Amount Due **\$3,869.23**



AMOUNT DUE \$3,869.23

Due Date 02/03/2021

Amount After Due Date \$3,927.27

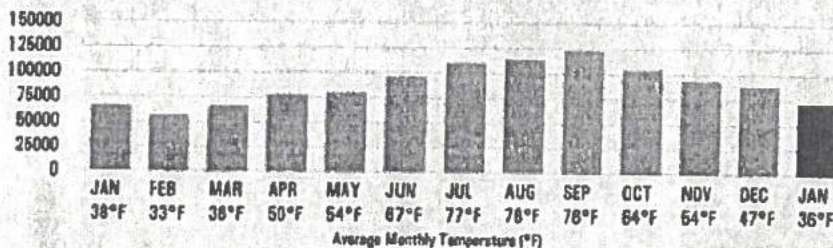
Previous Statement \$4,555.08

Total Payments \$4,555.08

Payment Received. Thank You.

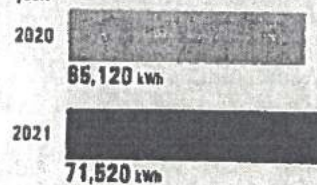
Electric Usage History

Electric Usage in Kilowatt Hours (kWh)



Electric Usage Summary (kWh)

So far this year, you're using **9.8% more** than last year.



Usage for Jan 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#: 4175

Signature: [Signature]

Date: 1/12/21

Keep this portion for your records.

See next page for service details.

Page 1 of 4



☐ Check if you have address changes on back.

Please return this portion with your payment.

Amount Due	Due Date
\$3,869.23	February 03, 2021
Delinquent Amount After Due Date	Account Number
\$3,927.27	4580005832
Amount Enclosed \$ _____	

>000278 6487117 0005 092139 102

ALLIANCE WATER RESOURCES INC
 PO BOX 1885
 LAKE OZARK, MO 65049-1885

AMEREN MISSOURI
 PO BOX 88068
 CHICAGO IL 60680-1068

20600000 0045800058302 000003869230 000003869230



- 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 12/07/2020 - 01/10/2021 (34 days)

Electric Meter Read

METER NUMBER	SERVICE FROM TO	NO. DAYS	USAGE TYPE	READING TYPE	CURRENT READING	PREVIOUS READING	READING DIFFERENCE	MULTIPLIER	USAGE
11673321	12/07 - 01/10	34	Total kWh	Actual	84155.0000	83708.0000	447.0000	180.0000	71520.0000
11673321	12/07 - 01/10	34	Peak kW	Actual	0.8560	0.0000	0.8560	180.0000	138.9680

Usage Summary

Total kWh	71520.0000	Peak kW	137.0000
Total Billing Demand	137.0000	October Winter Base kW	176.2000
Winter Base Demand	137.0000	Base kWh Ratio	1.0000
Base kWh (HUD)	71520.0000	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
Demand Charge	137.00	kW	@ \$ 2.00000000	\$274.00
Base Energy Charge / Hours Used	20,550.00	kWh	@ \$ 0.06080000	\$1,251.50
Base Energy Charge / Hours Used	27,400.00	kWh	@ \$ 0.04520000	\$1,238.48
Base Energy Charge / Hours Used	23,570.00	kWh	@ \$ 0.03560000	\$839.09
Customer Charge				\$95.28
Fuel Adjustment Charge	71,520.00	kWh	@ \$-0.00189000	\$-135.17
Energy Efficiency Investment Charge	71,520.00	kWh	@ \$ 0.00383900	\$274.57
Renewable Energy Adjustment	71,520.00	kWh	@ \$ 0.00044000	\$31.47
Total Service Amount				\$3,889.23
Total Electric Charges				\$3,889.23

Payments Since Previous Statement

DATE RECEIVED	AMOUNT
December 21, 2020	\$4,555.08

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](http://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: 1.877.428.3736

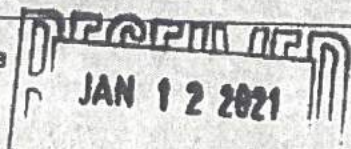
FOCUSED ENERGY. For life.

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

Current Detail for Statement 01/12/2021

Total Electric Charges \$140.27

Total Amount Due \$140.27



AMOUNT DUE \$140.27

Due Date 02/03/2021

Amount After Due Date \$142.37

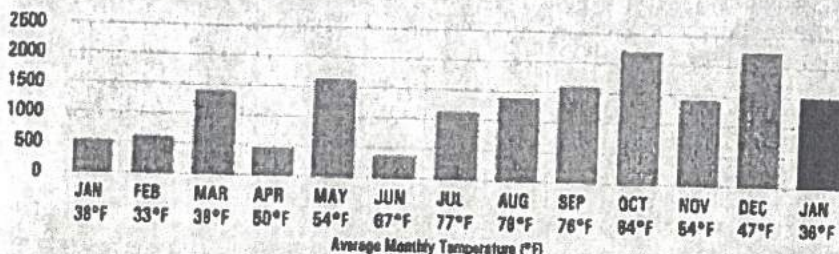
Previous Statement \$178.98

Total Payments \$178.98

Payment Received. Thank You.

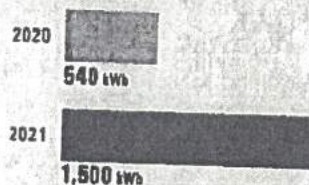
Electric Usage History

Electric Usage in Kilowatt Hours (kWh)



Electric Usage Summary (kWh)

This shows how much electric energy you've used this year compared to last year.



Usage for Jan 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#: 4675

Signature: [Signature]

Date: 1/12/21

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
\$140.27	February 03, 2021
Delinquent Amount After Due Date	Account Number
\$142.37	5580005920

Amount Enclosed \$

000255 6487117 0005 072139 102

ALLIANCE WATER RESOURCES INC
PO BOX 1885
LAKE OZARK, MO 65049-1885

AMEREN MISSOURI
PO BOX 88068
CHICAGO IL 60680-1068

10633000 0055800059200 000000140270 000000140270



- Pay by phone: 1.866.268.3729
- Pay by mail: PO Box 89068, 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 12/07/2020 - 01/10/2021 (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	12/07 - 01/10	34	Total kWh	Actual	21253.0000	21103.0000	150.0000	10.0000	1500.0000
98041276	12/07 - 01/10	34	Peak kW	Actual	4.8890	0.0000	4.8890	10.0000	48.8900

Usage Summary

Total kWh	1500.0000	Winter Base kWh	1600.0000
Current Base kWh	1500.0000	Seasonal kWh	0.0000

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

Threshold - Peak Demand

DESCRIPTION	USAGE	UNIT	RATE	CHARGE
Base Energy Charge	1,500.00	kWh	@ \$ 0.07780000	\$118.85
Seasonal Energy Charge	0.00	kWh	@ \$ 0.04480000	\$0.00
Customer Charge				\$18.88
Fuel Adjustment Charge	1,500.00	kWh	@ \$-0.00188000	\$-2.84
Energy Efficiency Investment Charge	1,500.00	kWh	@ \$ 0.00374300	\$5.61
Renewable Energy Adjustment	1,500.00	kWh	@ \$ 0.00044000	\$0.66
Total Service Amount				\$140.27
Total Electric Charges				\$140.27

Payments Since Previous Statement

DATE RECEIVED	AMOUNT
December 21, 2020	\$178.88

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

Remit To:

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



INVOICE

INVOICE	
8206191	
Invoice Date	Page
12/22/2020	1 of 1
ORDER NUMBER	
1182628	

Branch 06

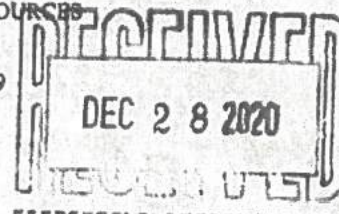
JEFFERSON CITY

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-9		Net 30		1/21/2021	
Order Date	Pick Ticket No	Primary Salesrep Name		Order Taker	
10/23/2020 09:09:53	3197698	Ben Reinkemeyer JJ		HHASKELL	
Quantities			Item ID	Pricing UOM	Unit Price
Ordered	Shipped	Remaining	Item Description	Unit Size	Extended Price
1.00	1.00	0.00	EA	EA	6,555.00
			1.0	10HP 460V 500GPM AT 25'	1.0000

Total Lines: 1

Total Freight In: 204.00

NEW REPLACEMENT LIFT STATION PUMP SUB-TOTAL: 6,555.00
Total Freight Out: 0.00

TOTAL FREIGHT: 204.00

TAX: 0.00

AMOUNT DUE: 6,759.00

GL Acct#: 4000

Signature: *[Signature]*

Date: 12/28/20

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/tandc>. Any additional or contrary terms are hereby rejected.

ORIGINAL

12.11.911, 11/19/2012

THIS PAGE INTENTIONALLY LEFT BLANK

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

		12/31/2020					
Account Number	Account Name	2018 Actual	2019 Actual	2020 Budget	2020 Actual as of 12/31/2020	2020 December Revenue	Percent YTD
3020	Osage Beach	480,784.67	475,091.53	473,000.00	475,836.10	38,674.33	101%
3010	Lake Ozark	69,215.30	74,908.46	77,000.00	74,163.90	7,459.01	96%
3030	Misc.	1,485.00	0.00	0.00	4,500.00	0.00	0%
3100	Interest	1,484.82	4,286.79	1,400.00	780.40	3.22	56%
3060	Waste Haulers' Fee	25,780.00	26,260.00	29,000.00	39,320.00	2,760.00	136%
Total Operating Fund		578,749.79	580,546.78	580,400.00	594,600.40	48,896.56	102%
E/R Fund Income		4,281.74	9,001.77	4,000.00	8,955.85	20.38	224%
TOTAL INCOME		583,031.53	589,548.55	584,400.00	603,556.25	48,916.94	103%

MONTH-TO-DATE AND YEAR-TO-DATE
EXPENDITURE/BUDGET ANALYSIS
12/31/2020

Account Number	Account Name	2018 Actual	2019 Actual	2020 Budget	2020 Actual as of 12/31/2020	2020 December Expenses	Percent YTD
4000	Equipment Replace Fund	41,604.17	41,604.00	71,606.00	71,604.00	5,967.00	100%
4020	*Maintenance & Repair	9,713.88	104,062.97	98,000.00	26,299.39	303.93	27%
4140	Insurance	18,475.25	18,761.00	19,200.00	19,865.00	0.00	103%
4150	Vehicle Repair/Maint	3,887.47	5,479.60	13,500.00	12,479.74	1,485.00	92%
4160	Haulers Fees to Contractor	8,000.00	0.00	0.00	0.00	0.00	0%
4170	Contract Management	319,010.64	299,592.00	308,580.00	305,580.00	25,465.00	99%
4175	Electric	79,533.37	73,276.87	75,000.00	75,077.36	4,734.06	100%
4176	Utilities Misc.	0.00	3,717.52	3,100.00	2,485.59	80.54	80%
4190	Bank Charges	24.00	176.00	75.00	32.60	0.00	0%
4200	Audit	2,300.00	2,400.00	2,500.00	2,648.50	0.00	106%
4240	Capital Purchases	0.00	145,247.00	0.00	0.00	0.00	0%
	Totals	482,548.76	694,316.96	591,561.00	516,072.18	38,035.53	87%
	**E/R Expenses	42,782.61	41,280.51	104,000.00	85,258.27	33,141.23	82%
	TOTAL EXPENSES	525,331.37	735,597.47	695,561.00	601,330.45	71,176.76	86%

*Maintenance & Repair

Auto Dialer Yrly Software Fee

500.00

Regular Maintenance

11,000.00

UV Spare Parts

10,000.00

Road and parking lot main

2,000.00

Chainlink fence repair

4,000.00

Box of BOD bottles

500.00

Sandblast & paint clarifier #2

60,000.00

-

88,000.00

CARRY OVER

**Equipment & Replacement

2019

Pista Grit Suction tube

5,500.00

RAS motor control ckt/elec panel

37,670.00

Replace lift station pump

8,000.00

Impeller & volute wear ring for Flygt pump

3,000.00

Ducking skimmer arm mechanism

12,000.00

Replace winch for pulling lift station pumps & skim

3,000.00 X

Rebuild Ducking skimmer arm & arm supports

5,000.00

Replace wooden doors w/fiberglass

2,000.00

Repair/replace roof on headworks & other bldg

45,000.00

83,600.00

OPERATING FUND INCOME AND EXPENSE SUMMARY
12/31/2020

Beginning Balance	331,758.72
Income - Osage Beach	38,374.33
Income - Lake Ozark	7,459.01
Income - Other	-
Income - Waste Haulers' Fees	2,760.00
Interest - Checking	3.22
Income - CD Interest	-
Transfers From E/R Fund	-
Transfers to E/R Fund	(5,967.00)
Expenses	(32,068.53)
Ending Fund Balance	342,319.75
Central Bank - NOW Acct.	125,430.20
CD First Bank of the Lake, 2/20/21 #101318432	105,989.80
CD First Bank of the Lake, 4/22/21 #101318433	111,609.75
Outstanding Checks:	(710.00)
	342,319.75

EQUIPMENT REPLACEMENT FUND INCOME AND EXPENSE SUMMARY
12/31/2020

Beginning Balance	559,576.57
Interest - Checking	20.38
Income - CD Interest	-
Transfers to E/R Fund	5,967.00
Income - Miscellaneous	-
Expenses	(33,141.23)
Ending Fund Balance	532,422.72
First Bank of the Lake - Money Mkt.	49,957.84
CD First Bank of the Lake, 11/07/21 #101318434	270,000.00
CD First Bank of the Lake, 2/20/21 #101318431	104,085.03
CD First Bank of the Lake, 7/30/21 #101318430	108,379.85
Outstanding Checks:	-
	532,422.72

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

		11/30/2020					
Account Number	Account Name	2018 Actual	2019 Actual	2020 Budget	2020 Actual as of 11/30/2020	2020 November Revenue	Percent YTD
3020	Osage Beach	480,784.67	475,091.53	473,000.00	437,461.77	38,815.56	92%
3010	Lake Ozark	69,215.30	74,908.46	77,000.00	66,704.89	7,017.77	87%
3030	Misc.	1,485.00	0.00	0.00	4,500.00	0.00	0%
3100	Interest	1,484.82	4,286.79	1,400.00	224.40	555.61	16%
3060	Waste Haulers' Fee	25,780.00	26,260.00	29,000.00	36,560.00	1,440.00	126%
Total Operating Fund		578,749.79	580,546.78	580,400.00	545,451.06	47,828.94	94%
E/R Fund Income		4,281.74	9,001.77	4,000.00	8,933.71	1,377.69	223%
TOTAL INCOME		583,031.53	589,548.55	584,400.00	554,384.77	49,206.63	95%

MONTH-TO-DATE AND YEAR-TO-DATE
EXPENDITURE/BUDGET ANALYSIS
11/30/2020

Account Number	Account Name	2018 Actual	2019 Actual	2020 Budget	2020 Actual as of 11/30/2020	2020 November Expenses	Percent YTD
4000	Equipment Replace Fund	41,604.17	41,604.00	71,606.00	65,637.00	5,967.00	92%
4020	*Maintenance & Repair	9,713.86	104,062.97	98,000.00	25,995.46	356.30	27%
4140	Insurance	18,475.25	18,761.00	19,200.00	19,865.00	0.00	103%
4150	Vehicle Repair/Maint	3,887.47	5,479.60	13,500.00	10,994.74	0.00	81%
4160	Haulers Fees to Contractor	8,000.00	0.00	0.00	0.00	0.00	0%
4170	Contract Management	319,010.64	299,592.00	308,580.00	280,115.00	25,465.00	91%
4175	Electric	79,533.37	73,276.87	75,000.00	70,343.30	5,155.24	94%
4176	Utilities Misc.	0.00	3,717.52	3,100.00	2,405.05	175.37	78%
4190	Bank Charges	24.00	176.00	75.00	32.60	0.00	0%
4200	Audit	2,300.00	2,400.00	2,500.00	2,648.50	0.00	106%
4240	Capital Purchases	0.00	145,247.00	0.00	0.00	0.00	0%
	Totals	482,548.76	694,316.96	591,561.00	478,036.65	37,118.91	81%
	**E/R Expenses	42,782.61	41,280.51	104,000.00	52,117.04	4,162.68	50%
	TOTAL EXPENSES	525,331.37	735,597.47	695,561.00	530,153.69	41,281.59	76%

*Maintenance & Repair

Auto Dialer Yrly Software Fee	500.00	
Regular Maintenance	11,000.00	
UV Spare Parts	10,000.00	
Road and parking lot main	2,000.00	
Chainlink fence repair	4,000.00	
Box of BOD bottles	500.00	
Sandblast & paint clarifier #2	60,000.00	FALL 2020
	<u>88,000.00</u>	

**Equipment & Replacement

Pista Grit Suction tube	5,500.00	2019
RAS motor control ctr/elec panel		37,670.00
Replace lift station pump	8,000.00	
Impeller & volute wear ring for Flygt pump	3,000.00	
Ducking skimmer arm mechanism	12,000.00	
Replace winch for pulling lift station pumps & skim	3,000.00	X
Rebuild Ducking skimmer arm & arm supports	5,000.00	
Replace wooden doors w/fiberglass	2,000.00	
Repair/replace roof on headworks & other bldg	45,000.00	
	<u>83,600.00</u>	

OPERATING FUND INCOME AND EXPENSE SUMMARY
11/30/2020

Beginning Balance	318,698.69
Income - Osage Beach	38,815.56
Income - Lake Ozark	7,017.77
Income - Other	-
Income - Waste Haulers' Fees	1,440.00
Interest - Checking	2.83
Income - CD Interest	552.78
Transfers From E/R Fund	2,350.00
Transfers to E/R Fund	(5,967.00)
Expenses	(31,151.91)
Ending Fund Balance	331,758.72
Central Bank - NOW Acct.	114,750.65
CD First Bank of the Lake, 2/20/21 #101318432	105,989.80
CD First Bank of the Lake, 4/22/21 #101318433	111,609.75
Outstanding Checks:	(591.48)
	331,758.72

EQUIPMENT REPLACEMENT FUND INCOME AND EXPENSE SUMMARY
11/30/2020

Beginning Balance	558,742.80
Interest - Checking	25.00
Income - CD Interest	1,352.69
Transfers to E/R Fund	5,967.00
Income - Miscellaneous	-
Expenses	(6,512.68)
Ending Fund Balance	559,574.81
First Bank of the Lake - Money Mkt.	77,346.18
CD First Bank of the Lake, 11/07/21 #101318434	270,000.00
CD First Bank of the Lake, 2/20/21 #101318431	104,085.03
CD First Bank of the Lake, 7/30/21 #101318430	108,379.85
Outstanding Checks:	(236.25)
	559,574.81

**OUR
MISSION**

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 2020

Submitted by Alliance Water Resources, Inc. for the

January 2021

Joint Sewer Board Meeting

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	Metals Selenium ug/L
Monthly Average	1.8	2.2	N/A	0.0		0.02	< 4.8	< 1.0
Peak Day	2.2	3.3	7.9	0.0		0.02	< 4.8	< 1.0
Percent Removal	99.4	99.5	N/A	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	Metals Selenium ug/ L
Monthly Average	30	30	6-9	126		1.1	10	3.6
Weekly Average	45	45		630				
Daily Max				N/A		6.0	15	9.1

PLANT HYDRAULIC AND ORGANIC LOADING

The average daily influent flow for the month was 1.091 MGD or 36% of Permitted flow with Lake Ozark contributing 16% of the total flow and Osage Beach contributing 84%. 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 80394 pounds of BOD.

BIOSOLIDS APPLICATION AND INVENTORY

Plant personnel land applied 18 tanker loads of bio-solids during the month equivalent to a total of 66,600 gallons and 19,255 pounds dry weight solids.

337,709 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 495,000 gallons with a level of 5.0 feet in Tank 1 and 6.0 feet in Tank 2.

WASTEHAULERS

The plant received 16 loads of septage during the month totaling 36,000 gallons.

WWTP OPERATIONS

- Decanting digesters and wasting weekly.
- Normal operations.
- We started draining Clarifier #2 on the 2nd of November in preparation of the Sandblast and Paint project.

WWTP MAINTENANCE AND REPAIR

- Performed routine maintenance throughout the month as per Antero Maintenance Data Management schedule. (New version of Operator 10 Software)
- We started having problems with the newer Keene decant pump in the digester lift station flipping the breaker on the 17th of November. We pulled it and contacted JCI to come and get it and check it out because there is a possibility it's still under warranty.
- GLW came on got the ducking skimmer arm off Clarifier 2 on the 12th of November to replace the pipe, all the bolts and bushings/bearings and will be like new when returned.
- Landco brought equipment in to start sandblasting Clarifier 2 on the 12th of November and started on the 16th.
- The headworks building re-roof project was completed on 24th of November.

SAFETY

- We conducted our monthly Safety Meeting on Fire Safety, Laboratory Chemical Hygiene Plant & Chlorine Handling Safety on the 10th of November.

REGULATORY AGENCY, INSPECTION AND REPORTS

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

MISCELLANEOUS AND RECOMMENDATIONS

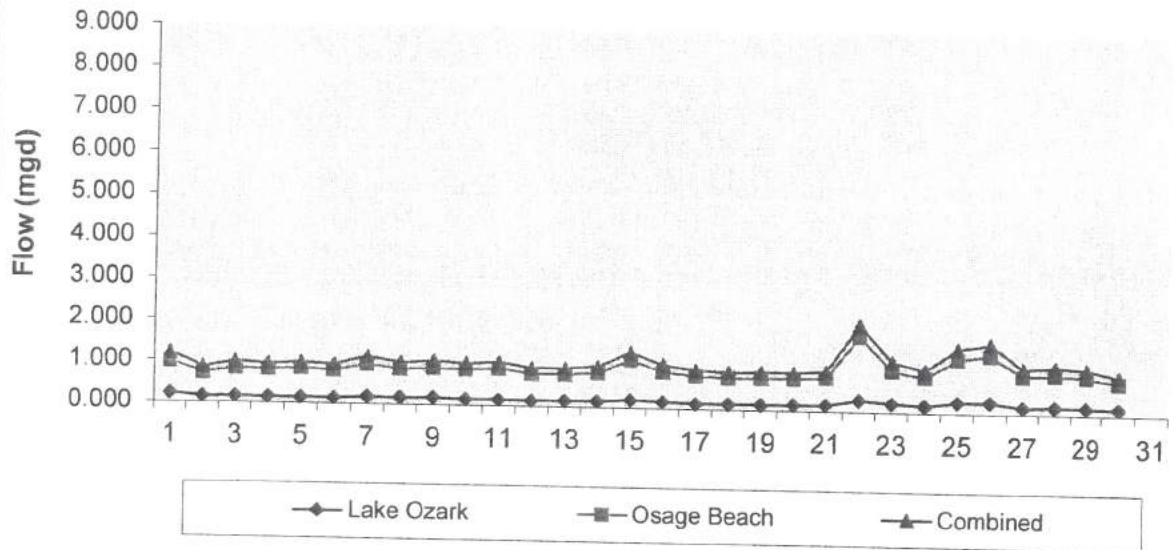
- We contacted Sourcewell, a government competitive contract bidding site on the 17th of November in which the Joint Sewer Board is now a member. We advertised through them that we were looking for a new sludge truck and have emailed 30 + truck vendors through that site for the solicitation of bids for the new sludge truck. We have had at least seven that shown interest and am collecting the bids hopefully in time for the board meeting.

TABLE A
LAKE OZARK/OSAGE BEACH WWTP

MONTH OF November 2020

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	0.215	0.980	1.195	18.0	82.0						
2-Nov	0	0.143	0.714	0.857	16.7	83.3						
3-Nov	0	0.159	0.827	0.986	16.1	83.9						
4-Nov	0	0.138	0.810	0.948	14.6	85.4						
5-Nov	0	0.138	0.844	0.982	14.1	85.9						
6-Nov	0	0.141	0.806	0.947	14.9	85.1	220	238	450	112	172	828
7-Nov	0	0.179	0.962	1.141	15.7	84.3						
8-Nov	0	0.164	0.847	1.011	16.2	83.8						
9-Nov	0	0.175	0.878	1.053	16.6	83.4						
10-Nov	0	0.146	0.863	1.009	14.5	85.5						
11-Nov	0.5	0.152	0.893	1.045	14.5	85.5						
12-Nov	0	0.141	0.781	0.922	15.3	84.7						
13-Nov	0	0.150	0.781	0.931	16.1	83.9	245	245	330	150	208	474
14-Nov	0.5	0.148	0.832	0.980	15.1	84.9						
15-Nov	0.5	0.190	1.152	1.342	14.2	85.8						
16-Nov	0	0.164	0.880	1.044	15.7	84.3						
17-Nov	0	0.130	0.799	0.929	14.0	86.0						
18-Nov	0	0.133	0.762	0.895	14.9	85.1						
19-Nov	0	0.137	0.770	0.907	15.1	84.9	223	245	188	122	156	182
20-Nov	0	0.142	0.769	0.911	15.6	84.4						
21-Nov	0.25	0.146	0.806	0.952	15.3	84.7						
22-Nov	1.25	0.278	1.813	2.091	13.3	86.7						
23-Nov	0	0.214	0.992	1.206	17.7	82.3						
24-Nov	0	0.167	0.853	1.020	16.4	83.6						
25-Nov	1	0.255	1.289	1.544	16.5	83.5	165	175	210	88	118	316
26-Nov	0.3	0.269	1.388	1.657	16.2	83.8						
27-Nov	0	0.166	0.910	1.076	15.4	84.6						
28-Nov	0	0.186	0.944	1.130	16.5	83.5						
29-Nov	0	0.179	0.911	1.090	16.4	83.6						
30-Nov	0	0.157	0.774	0.931	16.9	83.1						
SUM	4.3	5.102	27.630	32.732								
AVG		0.170	0.921	1.091	16	84	213	226	295	118	164	450
NOTE: BOLD PRINT INDICATES WEEKEND DAYS												

**Daily Flow
Figure 1**



**Effect of Rainfall on Flow
Figure 2**

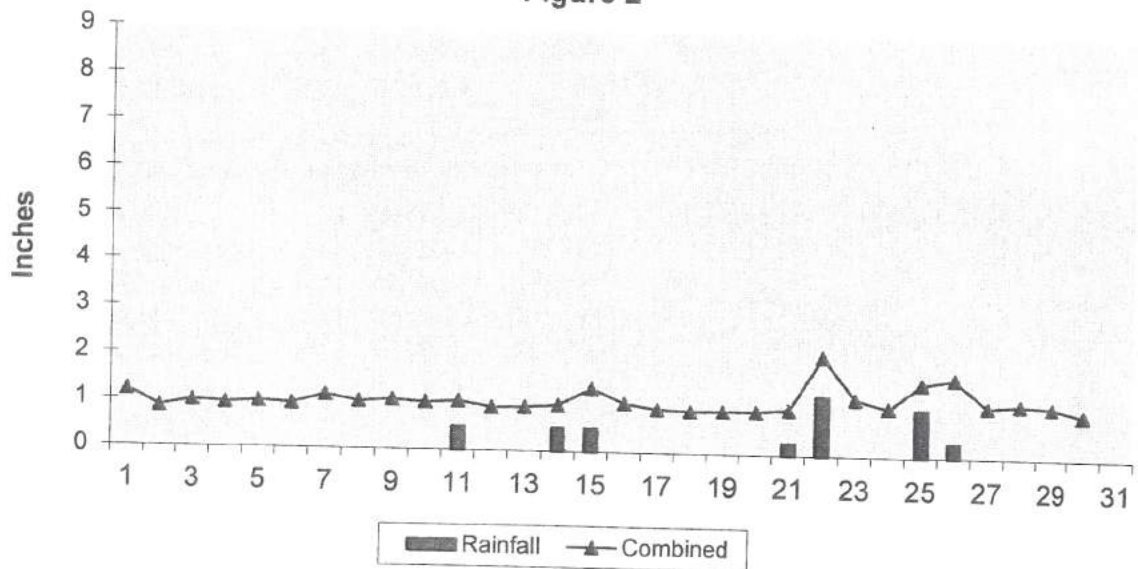


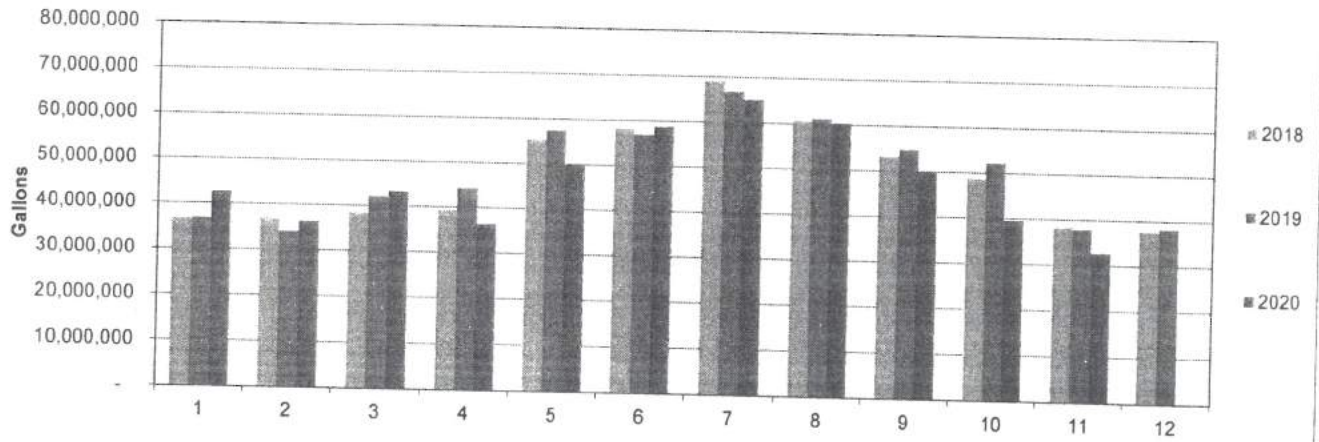
TABLE B
JOINT SEWER BOARD
Monthly Flows

<u>2018</u>	<u>RAINFALL</u>	<u>OSAGE BEACH</u>		<u>LAKE OZARK</u>		<u>TOTAL</u>	<u>%</u>
January	2.8	32,190,000	88%	4,345,000	12%	36,535,000	100%
February	5.4	31,846,000	87%	4,861,000	13%	36,707,000	100%
March	3.2	33,424,000	87%	5,010,000	13%	38,434,000	100%
April	1.9	34,339,000	88%	4,896,000	12%	39,235,000	100%
May	5.4	47,620,000	86%	7,610,000	14%	55,230,000	100%
June	3.2	51,063,000	88%	7,125,000	12%	58,188,000	100%
July	2.7	60,484,000	88%	8,550,000	12%	69,034,000	100%
August	6.9	52,916,000	87%	7,679,000	13%	60,595,000	100%
September	3.4	46,228,000	87%	7,013,000	13%	53,241,000	100%
October	7.5	42,037,000	86%	6,738,000	14%	48,775,000	100%
November	3.6	33,221,000	87%	5,089,000	13%	38,310,000	100%
December	6.3	32,452,000	86%	5,123,000	14%	37,575,000	100%
	52.3	497,820,000	87%	74,039,000	13%	571,859,000	100%

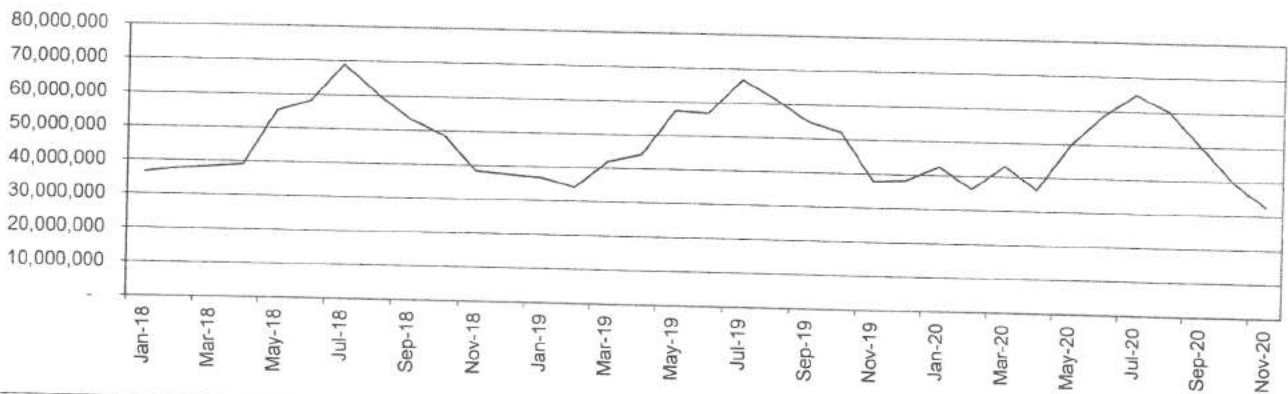
<u>2019</u>	<u>RAINFALL</u>	<u>OSAGE BEACH</u>		<u>LAKE OZARK</u>		<u>TOTAL</u>	<u>%</u>
January	2.1	32,085,000	87%	4,708,000	13%	36,793,000	100%
February	4.4	29,492,000	86%	4,650,000	14%	34,142,000	100%
March	6.3	36,210,000	86%	5,876,000	14%	42,086,000	100%
April	4.1	37,991,000	86%	6,135,000	14%	44,126,000	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							
	60.0	443,736,000	86%	70,886,000	14%	514,622,000	100%

Monthly Influent Flow
Figure 3A

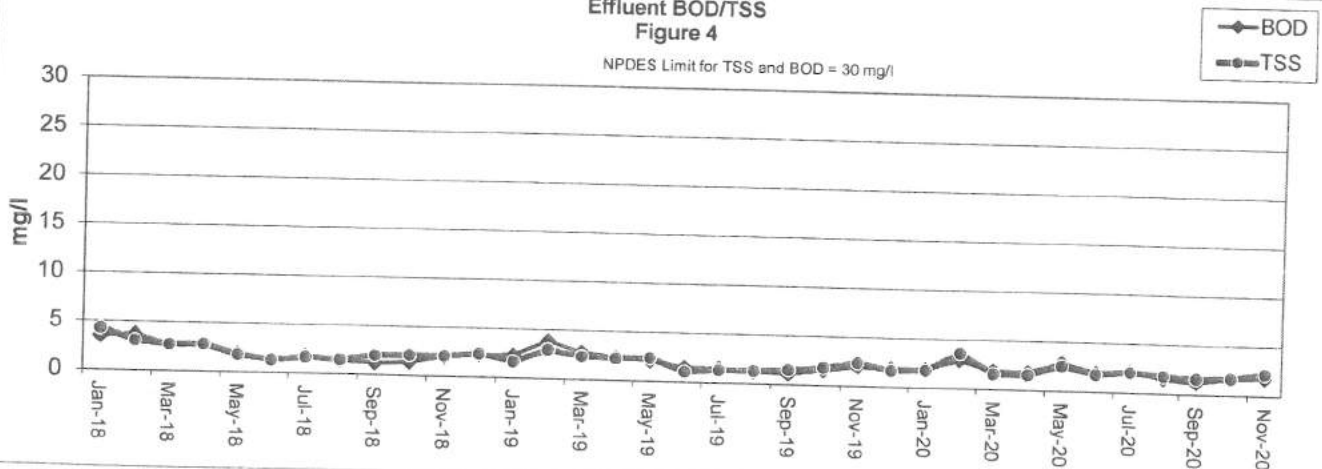


Monthly Influent Flow
Figure 3B



Effluent BOD/TSS
Figure 4

NPDES Limit for TSS and BOD = 30 mg/l

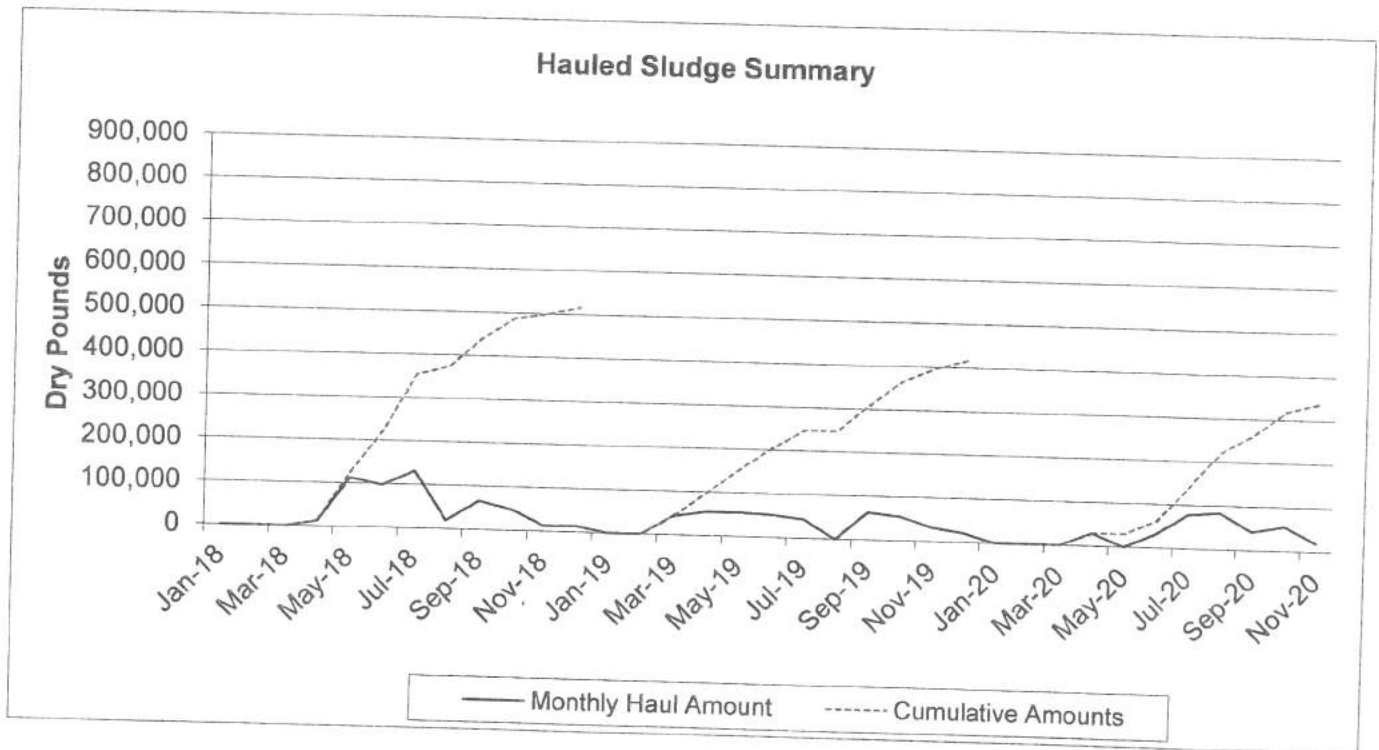
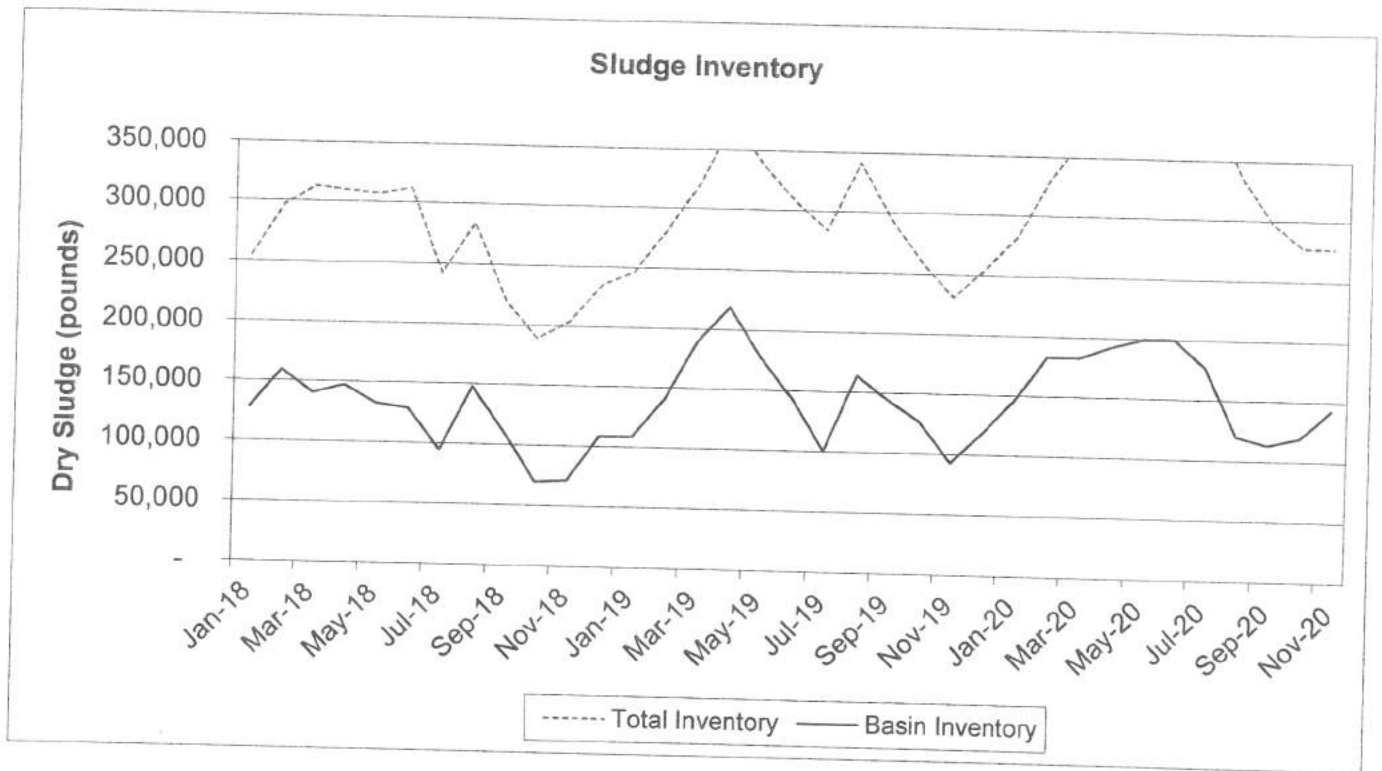


	Hauled Sludge				Annual Cumulative # Dry
	Loads	Gallons	# Dry	% Solids	
Jan-18	0	-	0	3.4%	-
Feb-18	0	-	0	3.4%	-
Mar-18	0	-	0	3.4%	-
Apr-18	11	40,700	12,096	3.6%	12,096
May-18	93	344,100	112,693	3.9%	124,789
Jun-18	88	325,000	97,758	3.6%	222,547
Jul-18	126	466,200	131,023	3.4%	353,570
Aug-18	12	44,400	19,441	5.3%	373,011
Sep-18	51	188,700	66,098	4.2%	439,109
Oct-18	38	140,600	48,447	4.1%	487,556
Nov-18	11	40,700	12,899	3.8%	500,455
Dec-18	14	51,800	14,688	3.4%	515,143
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	54,866	3.6%	151,945
Jun-19	44	162,800	51,872	3.8%	203,817
Jul-19	37	136,900	43,633	3.8%	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	31,629	3.5%	396,308
Dec-19	17	62,900	20,843	3.9%	416,951
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	31,660	4.1%	60,975
Jul-20	69	255,300	77,268	3.6%	138,243
Aug-20	76	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

Basin Depths				# Dry
Tank #1	Tank #2	AB #1	Basin Gallons	
5.5	4.5	0.0	450,000	127,602
7.5	5.0	0.0	562,500	159,503
5.5	5.5	0.0	495,000	140,362
5.0	6.0	0.0	495,000	147,114
4.5	4.5	0.0	405,000	132,638
4.0	5.5	0.0	427,500	128,589
3.0	4.5	0.0	337,500	94,853
5.0	2.5	0.0	337,500	147,778
4.5	2.5	0.0	315,000	110,338
3.0	1.5	0.0	202,500	69,776
2.5	2.5	0.0	225,000	71,309
6.5	2.0	0.0	382,500	108,459
5.0	3.5	0.0	382,500	108,462
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	218,676
8.0	5.0	0.0	585,000	177,036
7.0	3.0	0.0	450,000	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	126,498
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	146,367
6.5	6.0	0.0	562,500	182,959
5.5	7.0	0.0	562,500	182,959
6.0	7.5	0.0	607,500	192,528
6.0	8.0	0.0	630,000	199,660
6.0	7.0	0.0	585,000	200,228
5.0	4.0	0.0	405,000	119,953
4.0	4.5	0.0	382,500	113,246
5.0	3.0	0.0	360,000	119,563
5.0	6.0	0.0	495,000	143,111

Blanket Depths			MLSS Inventory		Blanket and MLSS Inventory		MLSS	Total Dry
Clarf #1	Clarf #2	Clarf #3	MLSS AB #1	MLSS AB #2	Gallons	# Dry	% Solids	Sludge Inventory
0.5	1.0	0.0	4,390	4,040	3,626,643	127,488	0.00422	255,090
2.0	4.0	1.0	4,880	3,920	3,750,000	137,610	0.0044	297,113
0.5	0.5	0.5	5,580	5,780	3,639,476	172,406	0.00568	312,769
0.5	0.5	0.5	5,670	5,040	3,639,476	162,542	0.00536	309,655
0.5	0.5	0.5	5,963	5,547	3,639,476	174,683	0.00576	307,321
4.0	3.0	1.0	6,190	5,490	3,767,762	183,511	0.00584	312,100
1.0	0.5	1.5	4,570	4,990	3,691,785	147,174	0.00478	242,026
2.5	1.0	1.0	4,680	4,170	3,705,595	136,753	0.00443	284,531
0.5	1.0	0.0	3,920	3,340	3,626,643	109,794	0.00363	220,132
0.5	1.0	0.0	4,290	3,640	3,617,762	119,633	0.00397	189,409
1.0	1.0	0.0	4,100	4,640	3,635,524	132,500	0.00437	203,809
11.0	12.0	0.0	4,120	3,420	4,008,526	126,035	0.00377	234,494
1.0	1.0	0.0	4,650	4,480	3,635,524	138,412	0.00457	246,874
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	321,033
1.5	0.5	1.0	5,720	4,530	3,678,952	157,248	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	5,610	4,810	3,771,714	163,886	0.00521	307,267
2.0	3.0	0.5	6,060	5,830	3,710,524	183,973	0.00595	284,370
5.0	3.0	0.5	5,680	5,680	3,763,810	177,982	0.00567	341,988
2.0	1.0	1.0	4,460	5,310	3,696,714	150,607	0.00489	294,741
2.5	3.0	1.0	4,170	4,350	3,741,119	132,916	0.00426	259,414
3.5	5.0	0.0	4,980	3,850	3,750,977	138,115	0.00442	230,968
1.0	1.0	0.0	5,090	3,940	3,635,524	136,896	0.00452	255,044
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	147,718	0.00479	330,676
2.0	5.0	1.0	5,760	5,940	3,767,762	183,825	0.00585	366,784
1.0	1.0	1.0	5,740	5,290	3,678,952	169,214	0.00552	361,742
1.0	7.0	1.0	5,584	5,663	3,785,524	177,557	0.00562	377,216
6.0	7.0	0.5	6,195	6,446	3,852,620	203,099	0.00632	403,327
7.0	7.0	1.0	6,541	6,827	3,892,096	222,027	0.00684	399,081
6.0	6.0	1.0	6,704	6,827	3,856,572	217,620	0.00677	337,574
1.0	1.0	0.5	6,039	6,109	3,657,238	185,265	0.00607	298,511
1.0	1.0	1.0	4,960	5,070	3,678,952	158,015	0.00515	277,578
1.0	0.0	0.5	4,760	4,080	3,639,476	134,465	0.00443	277,576

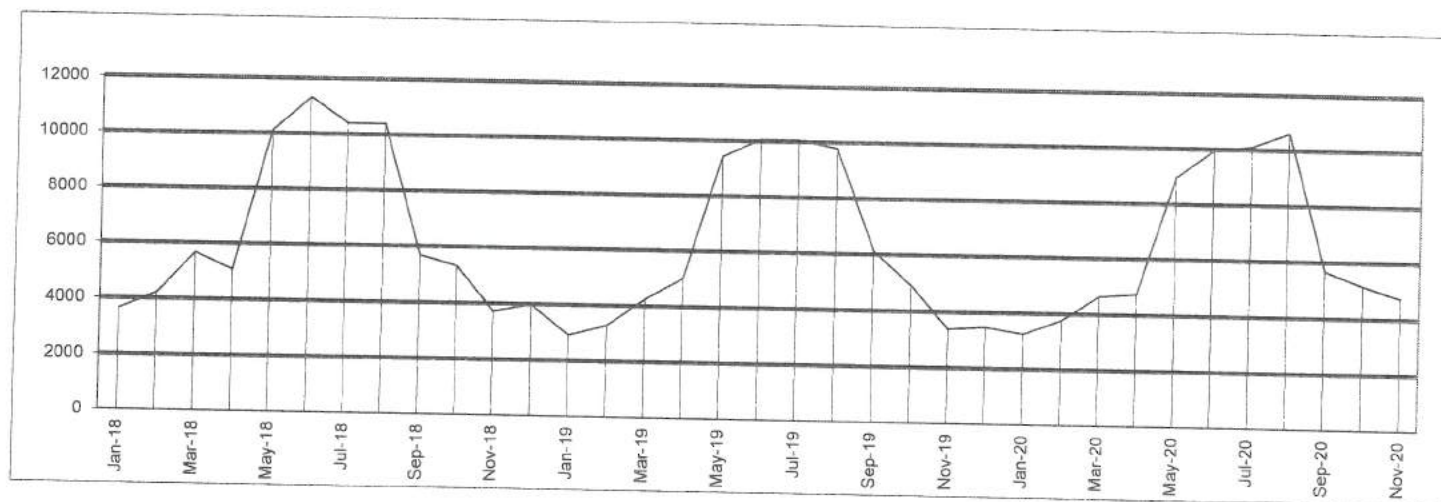
Accepted Septage	
Loads	Gallons
5	12,500
16	40,000
6	15,000
8	20,000
10	24,500
38	95,000
42	107,000
30	75,000
45	113,500
21	59,500
8	21,500
22	55,000
19	46,500
31	79,500
9	21,500
23	61,500
12	25,500
19	47,500
36	84,000
29	72,500
22	55,000
40	97,000
15	36,000
14	32,000
16	34,100
23	57,000
25	64,500
39	107,000
35	83,000
6	18,000
88	208,000
67	158,000
45	104,500
16	32,000
16	36,000



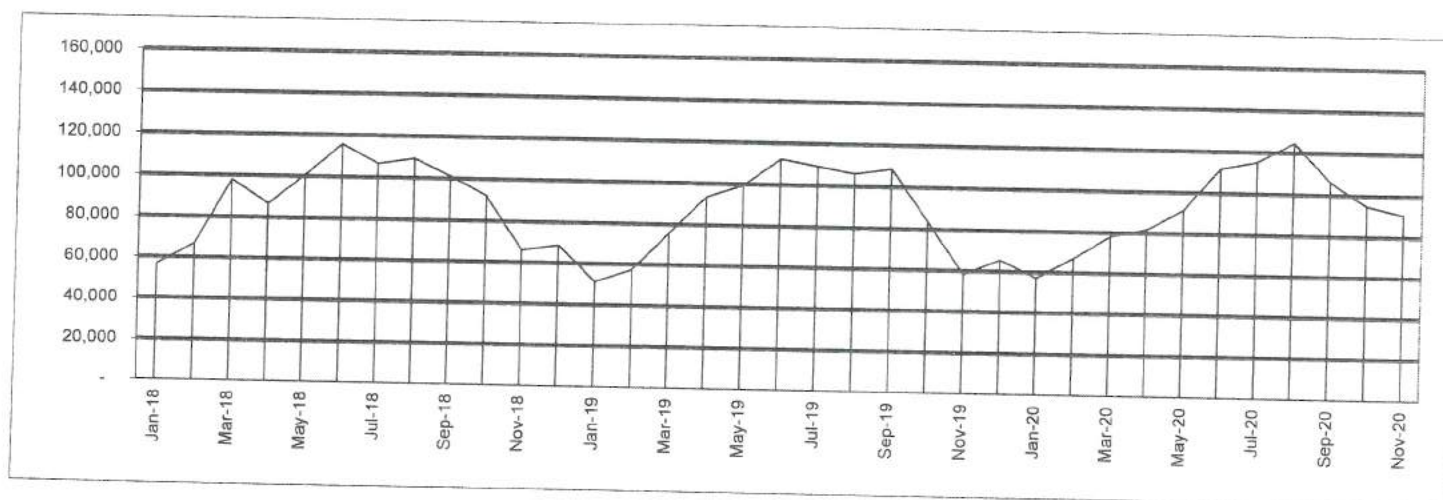
Electric Cost Kilowatts Used

Jan-18	3640	56,750
Feb-18	4207	66,930
Mar-18	5667	98,010
Apr-18	5060	86,650
May-18	10116	100,520
Jun-18	11336	115,750
Jul-18	10417	106,550
Aug-18	10400	109,290
Sep-18	5685	101,170
Oct-18	5317	92,210
Nov-18	3731	66,280
Dec-18	3990	68,840
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

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							
Nov-20		MO-0103241			#001		Oxidation Ditch/UV/Sludge Holding-sludge is land applied							
INFLUENT					EFFLUENT								% Removal	
DATE	pH UNITS	BOD mg/L	TSS 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			16.3	1.706	7.5				7.3		14.6		
2	7.3			15.0	1.352	7.5				7.4		13.1		
3	7.4			16.2	1.664	7.5				7.3		14.1		
4	7.6			17.0	1.495	7.9				7.5		15.3		
5	7.4			17.1	1.417	7.7			0.02	7.3		15.1		
6	7.2	450	828	16.6	1.253	7.5	1.2	1.1		7.4		15.1	99.7	99.9
7	7.3			17.7	1.622	7.6				7.3		16.5		
8	7.3			17.2	1.441	7.5				7.0		15.8		
9	7.2			18.2	1.507	7.5				6.4		17.4		
10	7.4			19.0	1.253	7.7				6.2		19.0		
11	7.4			15.2	1.557	7.7				6.9		14.7		
12	7.3			15.3	1.455	7.7				7.2		15.1		
13	7.0	330	474	15.6	1.429	7.4	1.5	1.4	0.02	7.3		13.9	99.5	99.7
14	7.2			16.5	1.410	7.5				7.3		13.8		
15	7.2			14.7	1.895	7.4				6.9		13.3		
16	6.7			15.8	1.596	7.1				6.9		13.3		
17	7.0			15.9	1.305	7.5				7.9		13.3		
18	7.0			16.4	1.375	7.3			0.01	7.6		13.1		
19	6.8	188	182	16.7	1.427	7.2	2.2	3.0		7.5		14.0	98.8	98.4
20	7.0			17.0	1.376	7.3				7.1		14.2		
21	6.9			17.1	1.402	7.3				7.4		14.3		
22	7.2			15.5	2.765	7.6				5.4		13.8		
23	7.1			15.6	1.808	7.5				6.9		13.5		
24	6.9			15.6	1.528	7.4			0.02	7.1		13.3		
25	6.9	210	316	15.8	2.139	7.2	2.1	3.3		6.7		14.1	99.0	99.0
26	6.9			13.9	2.206	7.2				7.2		13.2		
27	6.8			14.9	1.614	7.1				7.3		13.2		
28	6.9			13.4	1.665	7.1				7.6		11.7		
29	7.0			14.0	1.630	7.1				7.4		11.9		
30	7.0			12.5	1.478	7.4				7.8		10.8		
Total					47.770									
Avg		295	450	15.9	1.592		1.8	2.2	0.02	7.1	0.0	14.2	99.3	99.2
Min	6.7	188	182	12.5	1.253	7.1	1.2	1.1	0.01	5.4	0.0	10.8	98.8	98.4
Max	7.6	450	828	19.0	2.765	7.9	2.2	3.3	0.02	7.9	0.0	19.0	99.7	99.9

MONTHLY MONITORING					QUARTERLY MONITORING					
DATE	Oil & Grease mg/L	Selenium µg/L	SM1 Hardness mg/L	SM2 Hardness mg/L	Phosphorus mg/L	SM1 Phosphorus mg/L	T. Nitrogen mg/L	SM1 T. Nitrogen mg/L	TR. Cadmium ug/L	TR. Copper µg/L
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11	< 4.8	< 1.0	296	333						
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										
Total	< 4.8	< 1.0	296	333						
Avg	< 4.8	< 1.0	296	333						
Min	< 4.8	< 1.0	296	333						
Max	< 4.8	< 1.0	296	333						

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

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		4.1	4,880	810	14.7	3.9	4,760	830	14.5	50	0	7:30
2		5.3	4,720	820	13.5	4.7	5,380	880	14.2	34	0	7:30
3	1,173	5.5	5,240	840	13.8	5.0	4,850	840	14.0	42	0	7:30
4		5.0	5,330	860	15.2	4.6	4,700	820	15.5	50	0	7:30
5		3.9	5,660	880	15.0	5.2	4,220	770	15.1	50	0	7:30
6		4.8	4,720	810	15.0	4.4	4,490	720	15.1	48	0	7:30
7		3.9	4,560	790	16.6	3.3	4,830	790	16.5	52	0	7:30
8		4.4	4,370	790	16.0	4.1	5,040	800	16.1	55	0	7:30
9	6,110	3.8	4,230	700	17.7	2.7	5,300	800	17.7	64	0	7:30
10	2,037	2.7	4,490	600	19.2	1.5	4,900	700	19.0	69	0	7:30
11		3.8	4,390	720	15.3	3.6	4,710	750	16.0	36	0.5	7:30
12		4.9	4,670	800	14.9	3.9	4,260	750	15.6	34	0	7:30
13		3.9	4,850	730	13.2	4.8	4,720	800	14.0	35	0	7:30
14		5.2	4,680	800	13.7	4.9	3,830	700	14.6	47	0.5	7:30
15		4.0	4,840	770	13.6	5.2	4,360	670	14.0	45	0.5	7:30
16		4.0	4,150	500	13.3	5.6	3,840	425	13.9	33	0	7:30
17		4.9	4,720	750	14.0	5.9	3,810	450	14.5	37	0	7:30
18	2,037	4.5	4,820	800	13.3	5.3	3,920	450	13.7	43	0	7:30
19	4,937	3.4	3,920	440	13.7	4.9	5,000	790	13.9	58	0	7:30
20	3,425	3.2	5,360	750	14.4	5.5	3,800	450	14.6	51	0	7:30
21		4.2	4,580	700	14.9	5.5	3,850	650	15	48	0.25	7:30
22		1.8	3,930	550	14.1	4.2	4,240	550	14.4	45	1.25	7:30
23		4.2	5,210	700	13.6	6	4,250	600	14	40	0	7:30
24		4.4	4,930	800	13.6	5.7	3,970	700	13.8	45	0	7:30
25		3.0	4,740	750	14.3	4.6	4,220	500	14.5	52	1.0	7:30
26		4.5	3,980	730	13.1	5.6	4,430	650	13.2	41	0.3	7:30
27		5.1	4,380	670	13.2	6.0	4,190	510	13.2	43	0	7:30
28		5.2	4,330	700	11.8	6.1	4,220	700	11.8	33	0	7:30
29		4.8	4,660	720	11.9	5.3	4,600	610	12.0	41	0	7:30
30		4.8	4,780	770	10.2	5.2	4,080	690	10.4	28	0	7:30
COMMENTS:												

COMMENTS:

TESTS PERFORMED BY (PRINT)

John Hornback

REPORT APPROVED BY (PRINT)

Gary Hutchcraft

SIGNATURE

SIGNATURE

PHONE #

(573)365-0455

PHONE #

(573)365-0455

DATE

12/3/2020

DATE

12/3/2020

*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
MO0103241	001A
Monitoring Period	
11/1/20	11/30/20
NODI:	*****

Parameters	Reporting Requirements			Unit	Reporting Requirements		Unit
BOD, 5-day, 20 deg. C	*****	2.2	1.8	mg/L	*****	*****	*****
Mon. Location.: End of Pipe	*****:*****	Weekly Avg.:45	Monthly Avg.:30		*****:*****	*****:*****	
Sample Type: 24 Hour Composite							
Frequency: Weekly							
Flow, in conduit or thru treatment plant	*****	*****	*****	*****	2.765	1.592	Mgal/d
Mon. Location.: End of Pipe	*****:*****	*****:*****	*****:*****		Daily Max.:Monitoring Required	Monthly Avg.:Monitoring Required	
Sample Type: Total Measured							
Frequency: Daily							
pH	7.1	*****	7.9	SU	*****	*****	*****
Mon. Location.: End of Pipe	Minimum:6.5	*****:*****	Maximum:9.0		*****:*****	*****:*****	
Sample Type: Grab							
Frequency: Weekly							
Total Suspended Solids (TSS)	*****	3.3	2.2	mg/L	*****	*****	*****
Mon. Location.: End of Pipe	*****:*****	Weekly Avg.:45	Monthly Avg.:30		*****:*****	*****:*****	
Sample Type: 24 Hour Composite							
Frequency: Weekly							
Nitrogen, ammonia total (as N)	0.02	*****	0.02	mg/L	*****	*****	*****
Mon. Location.: End of Pipe	Daily Max.:11.5	*****:*****	Monthly Avg.:2.2		*****:*****	*****:*****	
Sample Type: Grab							
Frequency: Weekly							
Oil and grease (soxhlet extr.) tot.	<4.8	*****	<4.8	mg/L	*****	*****	*****
Mon. Location.: End of Pipe	Daily Max.:15	*****:*****	Monthly Avg.:10		*****:*****	*****:*****	
Sample Type: Grab							
Frequency: Monthly							
Selenium (Se), total recoverable	<1.0	*****	<1.0	ug/L	*****	*****	*****
Mon. Location.: End of Pipe	Daily Max.:9.1	*****:*****	Monthly Avg.:3.6		*****:*****	*****:*****	
Sample Type: Grab							
Frequency: Monthly							
BOD, 5-day, percent removal	*****	*****	98.8	%	*****	*****	*****
Mon. Location.: End of Pipe	*****:*****	*****:*****	Monthly Avg. Min.:85		*****:*****	*****:*****	
Sample Type: Calculated							
Frequency: Monthly							

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

Suspended Solids, percent removal	****	****	98.4	%	****	****	****
	****:****	****:****	Monthly Avg. Min.:85		****:****	****:****	
Mon. Location.: End of Pipe							
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 176
 Jefferson City, MO, 65102

Permit Number	Outfall Number
MO0103241	SM2A
Monitoring Period	
11/1/20	11/30/20
NODI:	*****

Parameters	Reporting Requirements		Unit	Reporting Requirements		Unit
Hardness, total (as CaCO3)	333	*****	333	mg/L	*****	*****
Mon. Location.: Instream Monitoring	Daily Max.:Monitoring Required	*****:*****	Monthly Avg.:Monitoring Required	*****:*****	*****:*****	*****
Sample Type: Grab						
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
December 4, 2020

User Phone Number
(573)365-0455

FOR NOVEMBER 2020

Use following abbreviations R-rain, S-snow, O-overcast, C-clear, PC-partly cloudy

Prepared by GH, JH, CB

Approved by _____ GH

Date 12/3/2020

Semi - Annual I & I Report
Wastewater Treatment Summary for the City of Lake Ozark
(Million Gallons)

	2020					
	April	May	June	July	August	September
L.O. Total MG	4.324	6.443	7.78	8.616	7.883	7.636
L.O. Peak MG	0.318	0.309	0.474	0.368	0.322	0.444
Avg. Daily MG	0.144	0.208	0.259	0.278	0.254	0.255
% Diff.	121%	49%	83%	32%	27%	74%
Rainfall Inches	5.2	5.3	4.8	6.9	2.3	8.4

Semi - Annual I & I Report
Wastewater Treatment Summary for the City of Osage Beach
(Million Gallons)

	2020					
	April	May	June	July	August	September
O.B. Total MG	31.967	43.538	58.716	56.437	52.449	42.235
O.B. Peak MG	1.672	2.123	3.015	2.163	2.167	1.990
Avg. Daily MG	1.066	1.404	1.957	1.821	1.692	1.408
% Diff.	57%	51%	54%	19%	28%	41%
Rainfall Inches	5.2	5.3	4.8	6.9	2.3	8.4

**OUR
MISSION**

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



REPORT OF OPERATIONS

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

Month of December 2020

Submitted by Alliance Water Resources, Inc. for the

January 2021

Joint Sewer Board Meeting

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	Metals Selenium ug/L
Monthly Average	2.5	2.9	N/A	0.0		0.04	< 4.8	< 1.0
Peak Day	2.9	3.6	7.6	0.0		0.07	< 4.8	< 1.0
Percent Removal	99.0	98.9	N/A	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	Metals Selenium ug/ L
Monthly Average	30	30	6-9	126		1.1	10	3.6
Weekly Average	45	45		630				
Daily Max				N/A		6.0	15	9.1

PLANT HYDRAULIC AND ORGANIC LOADING

The average daily influent flow for the month was 0.861 MGD or 29% of Permitted flow with Lake Ozark contributing 15% of the total flow and Osage Beach contributing 85%. 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 57536 pounds of BOD.

BIOSOLIDS APPLICATION AND INVENTORY

Plant personnel land applied 11 tanker loads of bio-solids during the month equivalent to a total of 40,700 gallons and 14,843 pounds dry weight solids.

352,552 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 450,000 gallons with a level of 4.5 feet in Tank 1 and 5.5 feet in Tank 2.

WASTEHAULERS

The plant received 33 loads of septage during the month totaling 69,000 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)
- We replaced a float switch in the decant lift station at the digesters on the 15th of December.
- JCI brought the repaired decant lift station pump back on the 18th of December and they said that it was not still under warranty.
- When pulling our annual maintenance on the heaters we noticed that the heater in the RAS valve room was not working. We called Catalyst Electric which installed it in 2019 and they came out on the 22nd of December and looked at it and said that the phase contactor & thermostat needed replaced. They ordered the parts and came back to install the parts on the 29th of December and got it back going. The parts were still under warranty but not the labor.

SAFETY

- We conducted our monthly Safety Meeting on Hazard Communication & Five Steps to a Safety Ready Workplace on the 1st of December.

REGULATORY AGENCY, INSPECTION AND REPORTS

- We filled out the new EDMR on the EPA MoGEM website on the 6th of January.

MISCELLANEOUS AND RECOMMENDATIONS

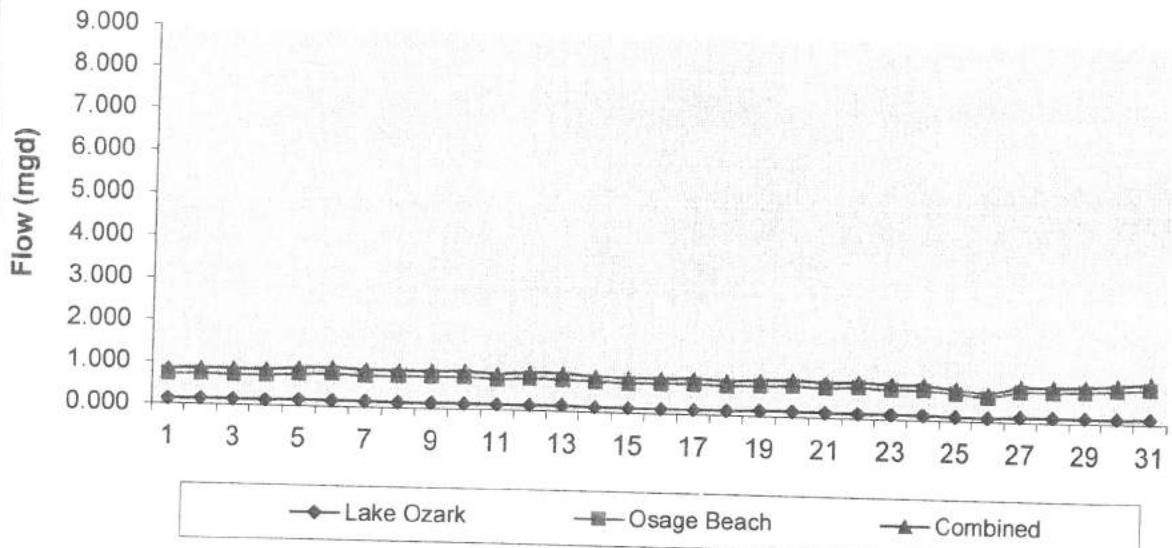
- We have received multiple bids that are not yet finalized for the purchase of the new sludge truck. Our hope is to have them finalized before the Joint Sewer Board meeting and bring them with us along with bid tabulation sheet for discussion and possible approval.
- Matt & I made a trip over to the Laurie Wastewater Treatment plant to explore another sludge dewatering option but have concluded that it would not be a cost-effective method versus hauling liquid sludge in-house.
- Landco Enterprises requested a 90-day extension for the Clarifier Sandblast & Paint project on the 26th of December. The current contract expired on the 31st of December 2020.
- You will also find attached an updated copy of our 2021 Plant Inventory List & the 2021 (ERP) Emergency Response Plan.
- Last but not least we would like to remind everyone that Alliance will be hosting a New Year's get together right after the Joint Sewer Board meeting at Wobbly Boots Roadhouse in Osage Beach where appetizers & beverages will be served.

TABLE A
LAKE OZARK/OSAGE BEACH WWTP

MONTH OF December 2020

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	0.129	0.714	0.843	15.3	84.7						
2-Dec	0	0.131	0.731	0.862	15.2	84.8						
3-Dec	0.25	0.135	0.719	0.854	15.8	84.2						
4-Dec	0.25	0.125	0.723	0.848	14.7	85.3	195	238	208	110	116	168
5-Dec	0	0.145	0.765	0.910	15.9	84.1						
6-Dec	0	0.139	0.786	0.925	15.0	85.0						
7-Dec	0	0.143	0.748	0.891	16.0	84.0						
8-Dec	0	0.129	0.759	0.888	14.5	85.5						
9-Dec	0	0.133	0.760	0.893	14.9	85.1						
10-Dec	0	0.132	0.775	0.907	14.6	85.4						
11-Dec	0	0.133	0.729	0.862	15.4	84.6	243	210	220	266	180	320
12-Dec	0.3	0.140	0.775	0.915	15.3	84.7						
13-Dec	0	0.150	0.763	0.913	16.4	83.6						
14-Dec	0	0.129	0.729	0.858	15.0	85.0						
15-Dec	0	0.128	0.717	0.845	15.1	84.9						
16-Dec	0	0.117	0.725	0.842	13.9	86.1						
17-Dec	0	0.119	0.736	0.855	13.9	86.1						
18-Dec	0	0.117	0.702	0.819	14.3	85.7	235	263	248	166	158	188
19-Dec	0	0.131	0.728	0.859	15.3	84.7						
20-Dec	0	0.137	0.742	0.879	15.6	84.4						
21-Dec	0	0.127	0.709	0.836	15.2	84.8						
22-Dec	0	0.122	0.745	0.867	14.1	85.9						
23-Dec	0	0.121	0.713	0.834	14.5	85.5	388	210	263	268	206	248
24-Dec	0	0.118	0.716	0.834	14.1	85.9						
25-Dec	0	0.105	0.649	0.754	13.9	86.1						
26-Dec	0	0.088	0.570	0.658	13.4	86.6						
27-Dec	0	0.127	0.725	0.852	14.9	85.1						
28-Dec	0	0.120	0.725	0.845	14.2	85.8						
29-Dec	0	0.126	0.746	0.872	14.4	85.6						
30-Dec	0.5	0.120	0.792	0.912	13.2	86.8	305	228	353	138	200	412
31-Dec	0	0.133	0.833	0.966	13.8	86.2						
SUM	1.3	3.949	22.749	26.698								
AVG		0.127	0.734	0.861	15	85	273	230	258	190	172	267
NOTE: BOLD PRINT INDICATES WEEKEND DAYS												

Daily Flow
Figure 1



Effect of Rainfall on Flow
Figure 2

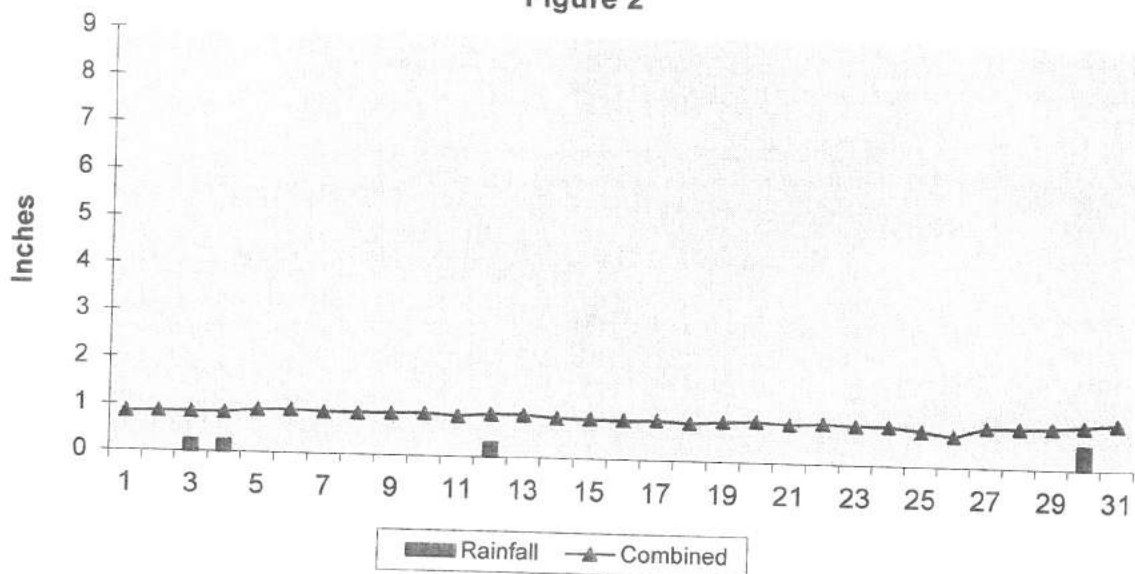
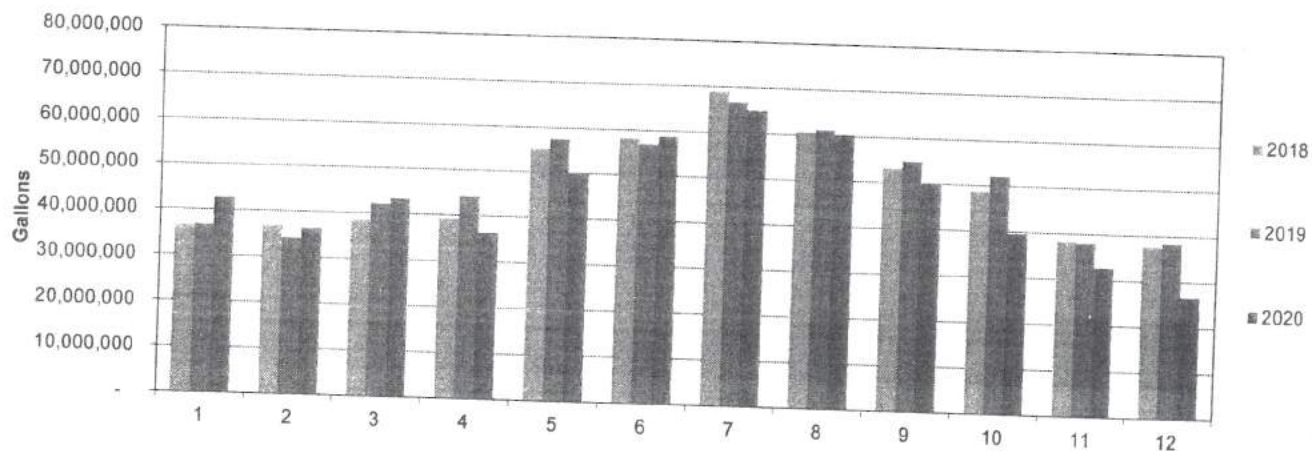


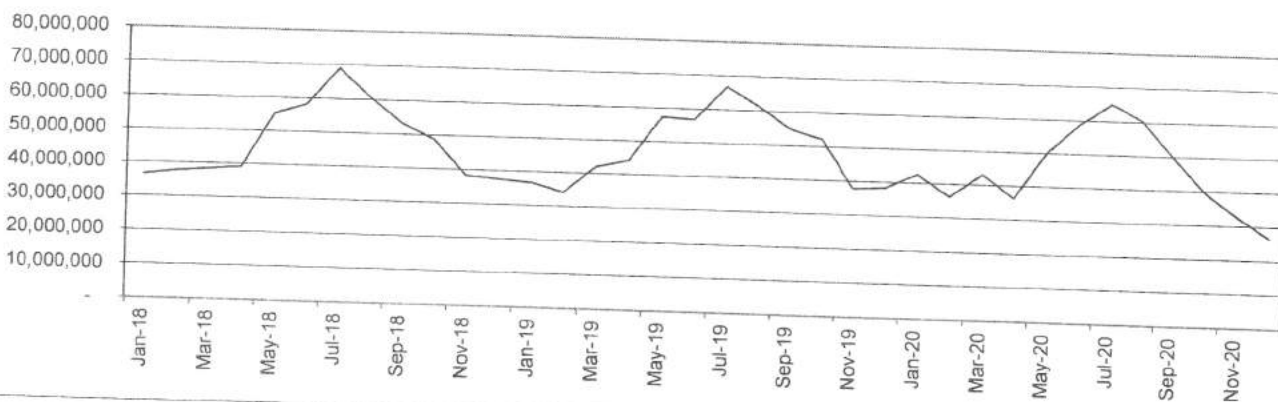
TABLE B
JOINT SEWER BOARD
Monthly Flows

<u>2018</u>	<u>RAINFALL</u>	<u>OSAGE BEACH</u>		<u>LAKE OZARK</u>		<u>TOTAL</u>	<u>%</u>
January	2.8	32,190,000	88%	4,345,000	12%	36,535,000	100%
February	5.4	31,846,000	87%	4,861,000	13%	36,707,000	100%
March	3.2	33,424,000	87%	5,010,000	13%	38,434,000	100%
April	1.9	34,339,000	88%	4,896,000	12%	39,235,000	100%
May	5.4	47,620,000	86%	7,610,000	14%	55,230,000	100%
June	3.2	51,063,000	88%	7,125,000	12%	58,188,000	100%
July	2.7	60,484,000	88%	8,550,000	12%	69,034,000	100%
August	6.9	52,916,000	87%	7,679,000	13%	60,595,000	100%
September	3.4	46,228,000	87%	7,013,000	13%	53,241,000	100%
October	7.5	42,037,000	86%	6,738,000	14%	48,775,000	100%
November	3.6	33,221,000	87%	5,089,000	13%	38,310,000	100%
December	6.3	32,452,000	86%	5,123,000	14%	37,575,000	100%
	52.3	497,820,000	87%	74,039,000	13%	571,859,000	100%
<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%

Monthly Influent Flow
Figure 3A

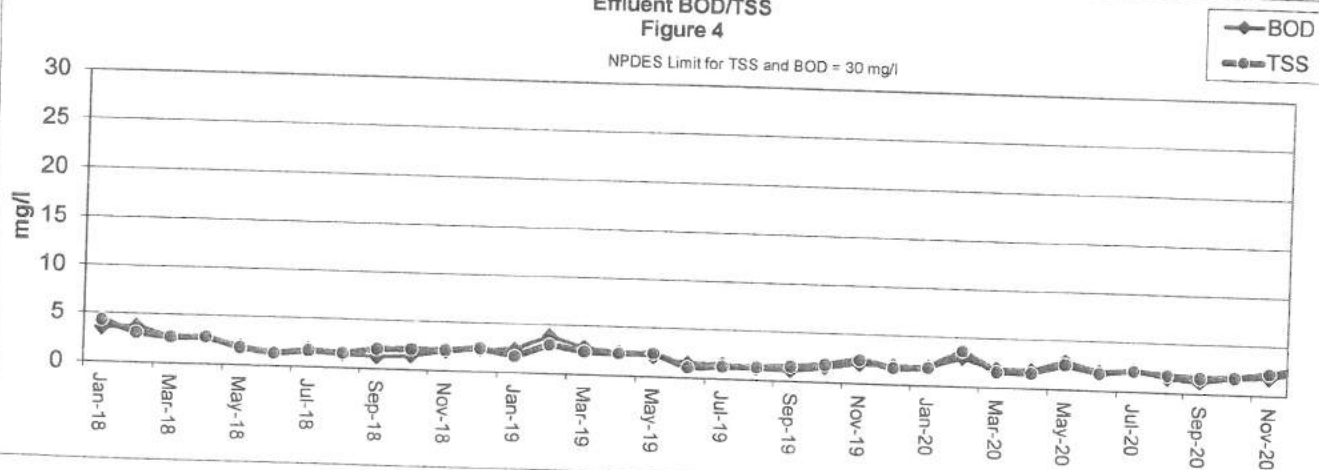


Monthly Influent Flow
Figure 3B



Effluent BOD/TSS
Figure 4

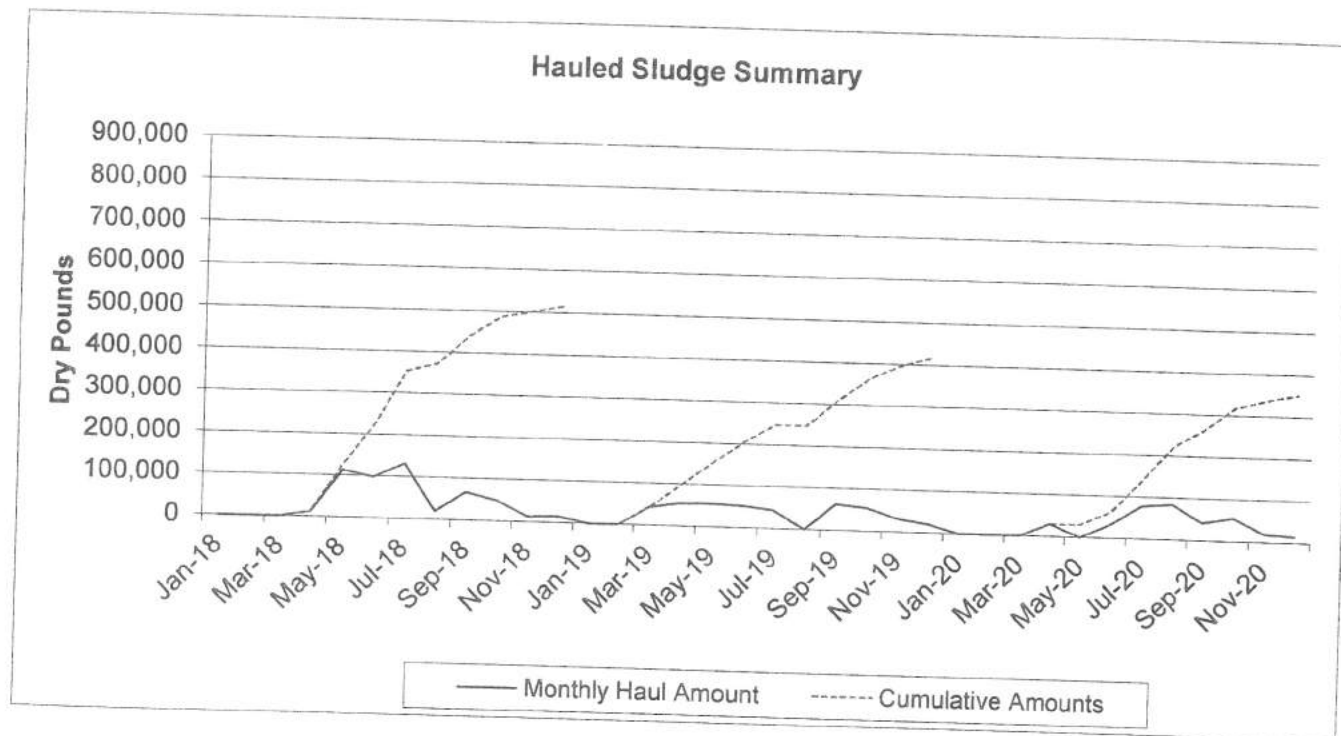
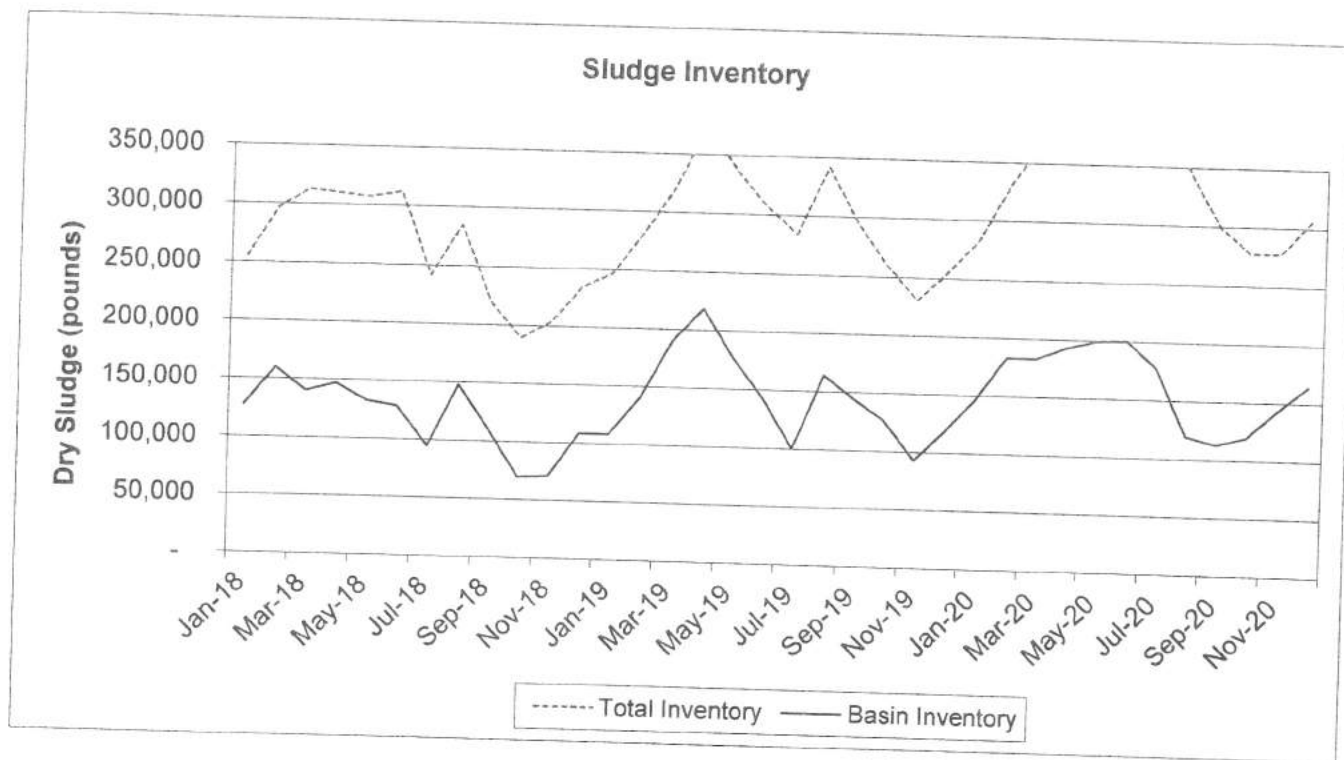
NPDES Limit for TSS and BOD = 30 mg/l



Basin Depths				
Tank #1	Tank #2	AB #1	Basin Gallons	# Dry
5.5	4.5	0.0	450,000	127,602
7.5	5.0	0.0	562,500	159,503
5.5	5.5	0.0	495,000	140,362
5.0	6.0	0.0	495,000	147,114
4.5	4.5	0.0	405,000	132,631
4.0	5.5	0.0	427,500	128,589
3.0	4.5	0.0	337,500	94,853
5.0	2.5	0.0	337,500	147,778
4.5	2.5	0.0	315,000	110,338
3.0	1.5	0.0	202,500	69,776
2.5	2.5	0.0	225,000	71,309
6.5	2.0	0.0	382,500	108,459
5.0	3.5	0.0	382,500	108,462
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	218,676
8.0	5.0	0.0	585,000	177,036
7.0	3.0	0.0	450,000	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	126,498
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	146,367
6.5	6.0	0.0	562,500	182,959
5.5	7.0	0.0	562,500	182,959
6.0	7.5	0.0	607,500	192,528
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	382,500	113,246
5.0	3.0	0.0	360,000	119,563
5.0	6.0	0.0	495,000	143,111
4.5	5.5	0.0	450,000	164,111

Blanket Depths			MLSS Inventory		Blanket and MLSS Inventory		MLSS	Total Dry
Clar #1	Clar #2	Clar #3	MLSS AB #1	MLSS AB #2	Gallons	# Dry	% Solids	Sludge Inventory
0.5	1.0	0.0	4,390	4,040	3,626,643	127,489	0.00422	255,090
2.0	4.0	1.0	4,880	3,920	3,750,000	137,610	0.0044	297,113
0.5	0.5	0.5	5,580	5,780	3,639,476	172,406	0.00588	312,769
0.5	0.5	0.5	5,670	5,040	3,639,476	162,542	0.00536	309,655
0.5	0.5	0.5	5,963	5,547	3,639,476	174,683	0.00576	307,327
4.0	3.0	1.0	6,190	5,490	3,767,762	183,511	0.00584	312,100
1.0	0.5	1.5	4,570	4,990	3,691,785	147,174	0.00478	242,026
2.5	1.0	1.0	4,680	4,170	3,705,595	136,753	0.00443	284,531
0.5	1.0	0.0	3,920	3,340	3,626,643	109,794	0.00363	220,132
0.5	0.5	0.0	4,290	3,640	3,617,762	119,633	0.00397	189,409
1.0	1.0	0.0	4,100	4,640	3,635,524	132,500	0.00437	203,809
11.0	12.0	0.0	4,120	3,420	4,006,526	126,035	0.00377	234,494
1.0	1.0	0.0	4,650	4,480	3,635,524	138,412	0.00457	246,874
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	321,033
1.5	0.5	1.0	5,720	4,530	3,678,952	157,248	0.00513	375,923
3.0	1.5	1.0	5,150	5,180	3,723,357	160,077	0.00516	337,113
2.0	4.0	1.5	5,610	4,810	3,771,714	163,886	0.00521	307,287
2.0	3.0	0.5	6,060	5,830	3,710,524	183,973	0.00595	284,370
5.0	3.0	0.5	5,660	5,680	3,763,810	177,982	0.00567	341,988
2.0	1.0	1.0	4,460	5,310	3,696,714	150,607	0.00489	294,741
2.5	3.0	1.0	4,170	4,350	3,741,119	132,916	0.00426	259,414
3.5	5.0	0.0	4,980	3,850	3,750,977	138,115	0.00442	230,968
1.0	1.0	0.0	5,090	3,940	3,635,524	136,896	0.00452	255,044
1.0	1.5	0.0	4,260	4,680	3,644,405	136,015	0.00448	282,382
3.5	2.0	0.0	5,190	4,390	3,697,691	147,718	0.00479	330,676
2.0	5.0	1.0	5,760	5,940	3,767,762	183,825	0.00585	366,784
1.0	1.0	1.0	5,740	5,290	3,678,952	169,214	0.00552	361,742
1.0	7.0	1.0	6,010	6,110	3,785,524	191,322	0.00606	390,981
6.0	7.0	0.5	7,050	7,120	3,852,620	227,647	0.00709	427,875
7.0	7.0	1.0	6,890	7,380	3,892,096	231,603	0.00714	408,656
6.0	6.0	1.0	6,530	7,400	3,856,572	224,021	0.00697	343,974
1.0	1.0	0.5	6,000	6,200	3,657,238	186,058	0.0061	299,304
1.0	1.0	1.0	4,960	5,070	3,678,952	158,015	0.00515	277,578
1.0	0.0	0.5	4,790	4,080	3,639,476	134,465	0.00443	277,576
1.0	0.0	0.5	5,030	4,360	3,639,476	142,598	0.0047	288,696

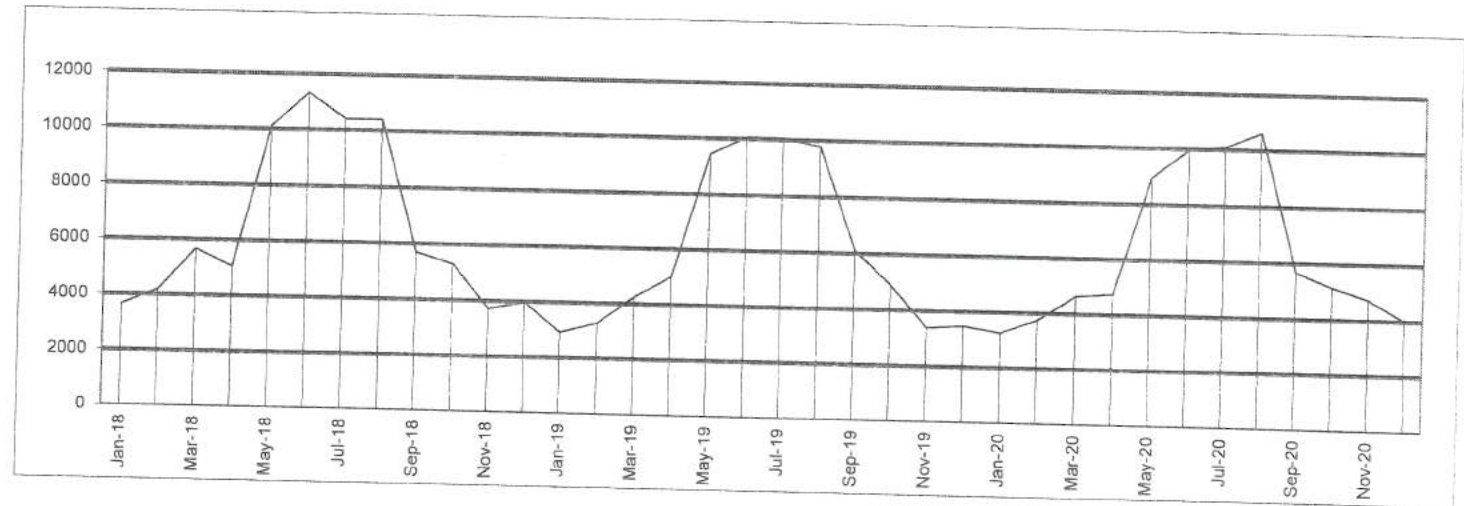
Accepted Loads	Septage Gallons
5	12,500
16	40,000
6	15,000
8	20,000
10	24,500
38	95,000
42	107,000
30	75,000
45	113,500
21	59,500
8	21,500
22	55,000
19	46,500
31	79,500
9	21,500
23	61,500
12	25,500
19	47,500
36	84,000
29	72,500
22	55,000
40	97,000
15	36,000
14	32,000
16	34,100
23	57,000
25	64,500
39	107,000
35	83,000
6	18,000
88	208,000
67	158,000
45	104,500
16	32,000
16	36,000



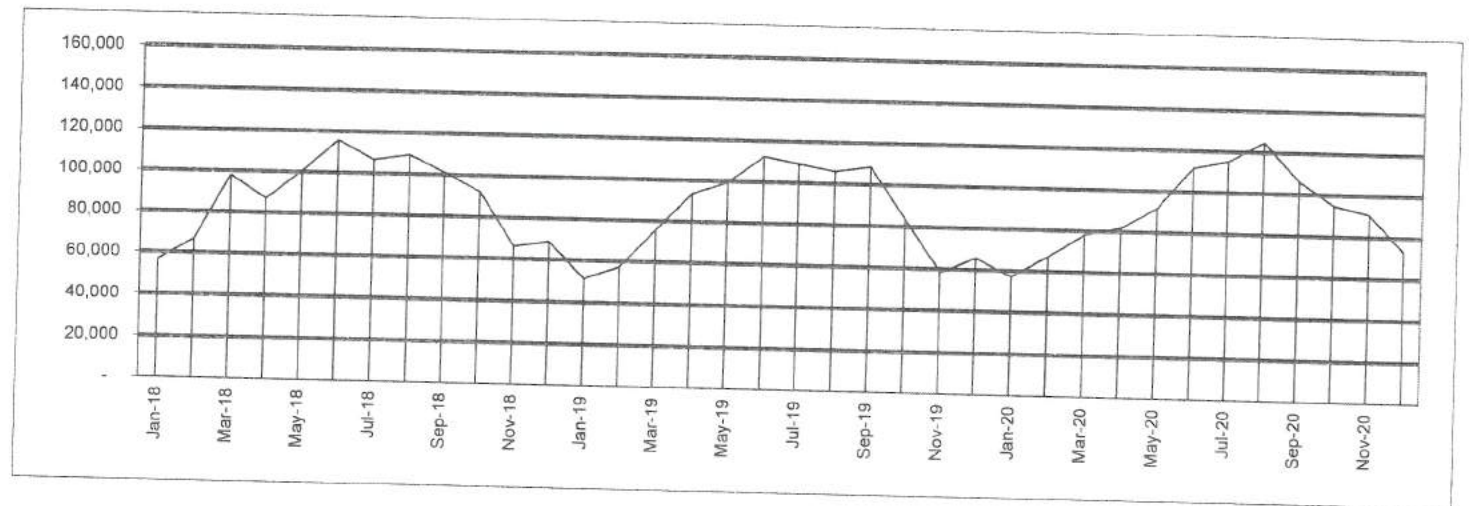
Electric Cost Kilowatts Used

Jan-18	3640	56,750
Feb-18	4207	66,930
Mar-18	5667	98,010
Apr-18	5060	86,650
May-18	10116	100,520
Jun-18	11336	115,750
Jul-18	10417	106,550
Aug-18	10400	109,290
Sep-18	5685	101,170
Oct-18	5317	92,210
Nov-18	3731	66,280
Dec-18	3990	68,840
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

Electric Cost



Kilowatts Used





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

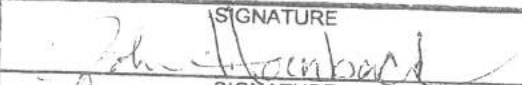
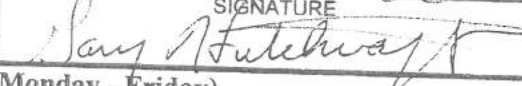
NAME OF FACILITY						LOCATION ADDRESS & CITY								COUNTY/REGION	
Lake of the Ozarks Regional WWTP #1						#3 Anderson Road								Miller/SWRO	
MONTH/YEAR		PERMIT NUMBER				OUTFALL NUMBER		TYPE TREATMENT FACILITY							
Dec-20		MO-0103241				#001		Oxidation Ditch/UV/Sludge Holding-sludge is land applied							
INFLUENT					EFFLUENT								% Removal		
DATE	pH UNITS	BOD mg/L	TSS 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			13.7	1.419	7.3				7.9		9.8			
2	7.0			13.6	1.366	7.5				8.3		9.5			
3	7.1			14.5	1.435	7.4			0.02	8.1		10.7			
4	7.2	208	168	13.1	1.455	7.4	2.6	3.6		8.0		10.5	98.8	97.9	
5	7.2			13.0	1.488	7.3				8.0		9.9			
6	7.0			11.8	1.449	7.2				7.7		10.1			
7	6.9			13.6	1.903	7.5				7.9		10.6			
8	7.2			13.2	1.460	7.5				8.2		10.1			
9	6.7			14.1	1.469	7.1				7.9		10.5			
10	7.0			13.9	1.467	7.2			0.03	8.1		10.9			
11	7.2	220	320	13.9	1.416	7.5	2.5	3.0		7.6		11.3	98.9	99.1	
12	7.2			12.9	1.344	7.5				7.7		11.3			
13	7.2			12.6	1.473	7.4				7.9		10.6			
14	7.2			12.3	1.422	7.6				8.6		10.4			
15	7.3			12.6	1.421	7.5				8.5		9.4			
16	7.2			12.1	1.457	7.6				8.4		9.2			
17	7.2			12.2	1.341	7.4			0.04	8.4		8.7			
18	7.2	248	188	12.4	1.428	7.4	2.9	3.2		9.0		8.9	98.8	98.3	
19	7.2			13.6	1.425	7.4				7.3		9.7			
20	7.2			12.3	1.435	7.5				6.9		8.5			
21	7.0			13.4	1.381	7.5				6.7		10.7			
22	7.1			12.7	1.436	7.6			0.02	6.8		10.6			
23	7.2	263	248	14.5	1.372	7.6	2.1	2.4		7.5		11.9	99.2	99.0	
24	6.6			12.5	1.334	7.6				7.2		9.1			
25	7.0			10.5	1.340	7.3				7.7		7.2			
26	7.1			10.1	1.235	7.4				7.6		7.8			
27	7.3			11.0	1.427	7.4				7.0		8.0			
28	7.0			11.6	1.391	7.3				7.0		8.8			
29	7.0			12.5	1.424	7.4			0.07	6.7		9.4			
30	7.0	353	412	11.8	1.483	7.0	2.3	2.2		6.4		9.8	99.3	99.5	
31	7.1			11.6	1.581	7.5				6.5		9.2			
Total					44.477										
Avg		258	267	13	1.435		2.5	2.9	0.04	7.7	0.0	9.8	99.0	98.7	
Min	6.6	208	168	10	1.235	7.0	2.1	2.2	0.02	6.4	0.0	7.2	98.8	97.9	
Max	7.3	353	412	15	1.903	7.6	2.9	3.6	0.07	9.0	0.0	11.9	99.3	99.5	

MONTHLY MONITORING					QUARTERLY MONITORING					
DATE	Oil & Grease mg/L	Selenium µg/L	SM1 Hardness mg/L	SM2 Hardness mg/L	Phosphorus mg/L	SM1 Phosphorus mg/L	T. Nitrogen mg/L	SM1 T. Nitrogen mg/L	TR. Cadmium ug/L	TR. Copper µg/L
1										
2										
3										
4										
5										
6										
7										
8	< 4.8	< 1.0	275	304						
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										
31										
Total	< 4.8	< 1.0	275	304						
Avg	< 4.8	< 1.0	275	304						
Min	< 4.8	< 1.0	275	304						
Max	< 4.8	< 1.0	275	304						

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		5.9	4,510	700	10.2	6.1	4,890	800	10.8	23	0	7:30
2		6.3	4,700	800	10.1	6.4	4,310	600	10.6	28	0	7:30
3		5.2	4,930	850	10.9	6.0	4,420	650	11.2	43	0.25	7:30
4		4.8	4,930	750	10.7	5.8	4,350	550	11.4	37	0.25	7:30
5		6.2	4,820	800	10.6	6.9	4,510	650	10.8	32	0	7:30
6		5.6	4,930	650	9.9	5.4	4,330	700	10.8	33	0	7:30
7		5.5	4,940	800	10.7	5.6	4,400	550	11.4	32	0	7:30
8		5.5	4,370	750	10.6	6.1	4,790	750	10.7	29	0	7:30
9		5.7	4,580	750	10.9	5.4	5,180	800	11.2	36	0	7:30
10	6,326	5.1	4,370	650	11.4	4.9	5,380	800	11.3	36	0	7:30
11		4.0	4,800	740	11.3	4.2	5,280	850	11.5	46	0	7:30
12		5.4	4,970	720	11.1	6.2	4,420	620	11.2	40	0.3	7:30
13		5.6	5,000	750	10.6	6.3	4,480	730	10.7	37	0	7:30
14		5.6	4,810	750	9.7	6.7	4,330	710	10.2	28	0	7:30
15		5.9	4,840	800	9.1	6.9	4,400	800	9.4	28	0	7:30
16		5.3	5,280	750	9.2	6.4	4,380	700	10.1	30	0	7:30
17		5.3	5,010	800	9.3	6.4	4,250	600	9.7	33	0	7:30
18		6.3	5,020	800	9.2	7.1	4,340	700	9.8	29	0	7:30
19		2.0	4,440	700	10.3	3.4	4,120	550	10.5	44	0	7:30
20		3.6	4,380	550	9.2	4.9	4,350	650	10	28	0	7:30
21	4,073	3.2	4,860	700	11.1	4.8	4,280	600	11.2	42	0	7:30
22		3.6	4,450	700	10.4	3.8	4,910	750	11.0	31	0	7:30
23	4,444	4.6	4,850	750	12.2	5.1	5,110	800	12.4	57	0	7:30
24		2.2	4,190	700	9.2	2.1	4,670	700	9.8	22	0	7:30
25		3.6	3,670	640	7.2	4.1	4,540	760	7.6	12	0	7:30
26		3.6	4,160	700	7.8	4.0	4,840	800	7.8	24	0	7:30
27		3.5	4,100	600	8.4	3.3	5,050	800	8.6	35	0	7:30
28		1.9	4,000	510	9.0	2.0	5,100	820	9.4	40	0	7:30
29		1.9	4,470	750	10.1	3.2	4,340	700	10.0	30	0	7:30
30		1.7	4,990	750	10.3	2.3	4,460	750	10.5	41	0.5	7:30
31		1.9	5,030	800	9.4	2.9	4,360	650	9.6	26	0	7:30
COMMENTS:												

COMMENTS:

TESTS PERFORMED BY (PRINT)	SIGNATURE	PHONE #	DATE
John Hornback		(573)365-0455	1/6/2021
REPORT APPROVED BY (PRINT)	SIGNATURE	PHONE #	DATE
Gary Hutchcraft		(573)365-0455	1/6/2021

*Required Daily (Monday - Friday)

**Required 1/week

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

Permit Number	Outfall Number
MO0103241	001A
Monitoring Period	
12/1/20	12/31/20
NODI:	*****

Parameters	Reporting Requirements			Unit	Reporting Requirements			Unit
BOD, 5-day, 20 deg. C	*****	2.9	2.5	mg/L	*****	*****	*****	
Mon. Location.: End of Pipe	*****:*****	Weekly Avg.:45	Monthly Avg.:30		*****:*****	*****:*****	*****:*****	
Sample Type: 24 Hour Composite								
Frequency: Weekly								
Flow, in conduit or thru treatment plant	*****	*****	*****	*****	1.903	1.435	Mgal/d	
Mon. Location.: End of Pipe	*****:*****	*****:*****	*****:*****		Daily Max.:Monitoring Required	Monthly Avg.:Monitoring Required		
Sample Type: Total Measured								
Frequency: Daily								
pH	7.0	*****	7.6	SU	*****	*****	*****	
Mon. Location.: End of Pipe	Minimum:6.5	*****:*****	Maximum:9.0		*****:*****	*****:*****	*****:*****	
Sample Type: Grab								
Frequency: Weekly								
Total Suspended Solids (TSS)	*****	3.6	2.9	mg/L	*****	*****	*****	
Mon. Location.: End of Pipe	*****:*****	Weekly Avg.:45	Monthly Avg.:30		*****:*****	*****:*****	*****:*****	
Sample Type: 24 Hour Composite								
Frequency: Weekly								
Nitrogen, ammonia total (as N)	0.07	*****	0.04	mg/L	*****	*****	*****	
Mon. Location.: End of Pipe	Daily Max.:11.5	*****:*****	Monthly Avg.:2.2		*****:*****	*****:*****	*****:*****	
Sample Type: Grab								
Frequency: Weekly								
Oil and grease (soxhlet extr.) tot.	<4.8	*****	<4.8	mg/L	*****	*****	*****	
Mon. Location.: End of Pipe	Daily Max.:15	*****:*****	Monthly Avg.:10		*****:*****	*****:*****	*****:*****	
Sample Type: Grab								
Frequency: Monthly								
Selenium (Se), total recoverable	<1.0	*****	<1.0	ug/L	*****	*****	*****	
Mon. Location.: End of Pipe	Daily Max.:9.1	*****:*****	Monthly Avg.:3.6		*****:*****	*****:*****	*****:*****	
Sample Type: Grab								
Frequency: Monthly								
BOD, 5-day, percent removal	*****	*****	98.8	%	*****	*****	*****	
Mon. Location.: End of Pipe	*****:*****	*****:*****	Monthly Avg. Min.:85		*****:*****	*****:*****	*****:*****	
Sample Type: Calculated								
Frequency: Monthly								

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

Suspended Solids, percent removal	****	****	97.9	%	****	****	****
Mon. Location.: End of Pipe	****,****	****,****	Monthly Avg.		****,****	****,****	
Sample Type: Calculated			Min.:85				
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

Permit Number	Outfall Number
MO0103241	SM2A
Monitoring Period	
12/1/20	12/31/20
NODI:	*****

Parameters	Reporting Requirements		Unit	Reporting Requirements		Unit
Hardness, total (as CaCO ₃)	304	*****	304	mg/L	*****	*****
Mon. Location.: Instream Monitoring	Daily Max.:Monitoring Required	*****.*****	Monthly Avg.:Monitoring Required	*****.*****	*****.*****	*****
Sample Type: Grab						
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 6, 2021	User Phone Number (573)365-0455
-------------------------------	------------------------------------	------------------------------------

FOR DECEMBER 2020

Use following abbreviations: R-rain, S-snow, O-overcast, C-clear, PC-partly cloudy.

Approved by _____ CH

Date: 1/6/2021

Landco Enterprises

PO Box 275
High Ridge, MO 63049
314-713-7884
Tamborski@att.net

December 26, 2020

To the Joint Board

We would like to formerly request a 90 day time extension for the Clarifier Project (sandblast and paint) at the Lake of the Ozarks facility, although we do not foresee the need for that amount of time.

We have experienced an insufficient number of full days within the manufacturer specified temperature and moisture range to perform sandblasting and the proper application of paint (above 35 degrees for 24 hours with low humidity and dew point).

Sincerely, Charles J. Tamborski

THIS PAGE INTENTIONALLY LEFT BLANK



December 17, 2020

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, 2020 was the twelve (12) month period from November 2018 through November 2019.

Accordingly, the base fee beginning January 1, 2021 will use the 12 month period from November 2019 through November 2020. The appropriate indices and resulting contract adjustment is calculated as follows:

CPI November 2019	238.850
CPI November 2020	241.310

$$\begin{aligned}\text{CPI Increase} &= (241.310 - 238.850) / 238.850 \\ &= 1.0\%\end{aligned}$$

Per the Agreement, the base fee will be adjusted upward beginning January 1, 2021 by the CPI percentage of 1.0%. The calculation of the 2021 Base Contract Fee is as follows:

Current 2020 Monthly Fee	= \$25,465.00
Adjusted 2021 Monthly Fee	= \$25,465.00 x 1.01 = \$25,720.00

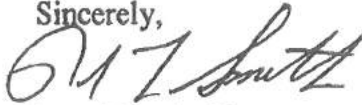
The invoice for January 2021 will reflect the new base fee of \$25,720.00.

SPECIAL CONSIDERATION REQUESTED:

In light of the exceptionally low rate of increase in the Consumer Price Index (CPI), Gary and I are respectfully requesting that the Board consider a slight addition to the calculated 2021 Base Fee. Our request is that the Board consider a 1.9% adjustment to the 2020 Base Fee. With Board consideration and approval, the Adjusted 2021 Monthly Fee would be \$25,942.00.

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

Sincerely,

A handwritten signature in black ink, appearing to read "R. L. Smith", written over the word "Sincerely,".

Ronald L. Smith
Regional Operations Manager
Alliance Water Resources

CC: Tony Sneed
Gary Hutchcraft

Lake Ozark / Osage Beach Joint Wastewater Plant
INVENTORY LIST
January 2021

TOOLS

<u>Item No.</u>	<u>Quantity & Item</u>	<u>* & X = New 2020</u>
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 & Philips 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 2021

TOOLS

<u>Item No.</u>	<u>Quantity & Item</u>	<u>* & X = New 2020</u>
44	6 - electrical screwdrivers, 3 straight & 3 philips head	
45	2 - wire stripers	
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 2021

TOOLS

<u>Item No.</u>	<u>Quantity & Item</u>	<u>* & X = New 2020</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 & 1157 bulbs

MISCELLANEOUS EQUIPMENT

121	1 - Ryobi 18 volt Drill, Circular Saw, Recip saw, Flashlight, Vacuum Combo Kit w/2 batteries
122	1 - Millermatic Wire feed welder w/helmet & gloves
123	1 - 10-3 50ft & 1 - 10-3 100ft Extension cord
124	4 - metal lockers in men's restroom
125	2 - metal lockers in women's restroom
126	1 - plastic mop bucket w/wringer
127	1 - Gorilla ladder MPX-22

Lake Ozark / Osage Beach Joint Wastewater Plant
INVENTORY LIST
January 2021

MISCELLANEOUS EQUIPMENT

<u>Item No.</u>	<u>Quantity & Item</u>	<u>* & X = New 2020</u>
128	1 - 4' step ladder, fiberglass	
129	1 - 6' step ladder, fiberglass	
130	10' stepladder, wood	
131	24' 300 lb rated extension ladder, aluminum	
132	24' 300 lb. rated extension ladder, fiberglass	
133	2 - set of plastic saw horses	
134	1 - 6"x 10' suction hoses	
135	2 - 6" x 25' suction hose	
136	1 - 4" x 60' suction hose	
137	1 - 4" x 15' discharge hose @ septic unloading station	
138	1 - Schumacher battery charger model SE-82-6	
139	1 - DieHard 12 volt automatic battery charger/engine starter model 28.71331	
140	1 - 100' extension cord	
141	1 - 50' extension cord	
142	1 - 1 gallon plastic gas cans	
143	2 - 5 gallon steel safety gas cans	
144	1 - misc. log chains, headwork's tool room	
145	3 - 50'x1 1/2" fire hoses with 2 nozzles	
146	5 - Garden hoses	
147	1 - mechanic creeper	
148	2 - Craftsman gas leaf blowers, one not running	
149	1 - Craftsman 4 cycle weed eater	
150	1 - Stihl weed eater, not running	
151	1 - Kawasaki weed eater, not running	
152	1 - cherry picker (engine hoist)	
153	1 - 9 gallon portable air tank	
154	1 - Campbell Hausfield 26 gallon air compressor	
155	1 - CH air drill	
156	1 - CH air ratchet	
157	1 - CH air grinder	
158	1 - CH air impact wrench	
159	1 - CH air chisel w/4 chisels	
160	1 - air tire inflator	
161	1 - Pro-Arc oxy-acc torch kit & tanks	
162	1 - Pro-Force 33 paint sprayer	
163	1 - 15 gal 12 volt portable sprayer	
164	1 - 60gal Ingersoll Rand in UV building	
165	1 - 3 ea. grease gun	
166	1 - Cowhbian 5" multi bench vise	
167	3 - shop vac's	
168	2 - drum dollies	
169	1 - Commercial Elec. Amp meter, HDSA 500	
170	1 - Commercial Elec. Multi meter, HDM 4100	

**Lake Ozark / Osage Beach Joint Wastewater Plant
INVENTORY LIST
January 2021**

MISCELLANEOUS EQUIPMENT

<u>Item No.</u>	<u>Quantity & Item</u>	<u>* & X = New 2020</u>
171	2 - insulated fuse pullers, 1 large & 1 small	
172	1 - GB circuit tester	
173	1 - 3/8 hammer drill	
174	1 - Skil 14.4 drill kit, w/ battery & charger	
175	1 - Black & Decker bench grinder	
176	1 - Black & Decker hand grinder, 4 1/2"	
177	1 - 115V 3/8 VSR Drill/ Driver	
178	1 - propane torch, elec. Start	
179	1 - strap 1 ton come along	
180	2 - chain come alongs, 1 ton & 3 ton	
181	1 - cable come along, 1 ton	
182	1 - 2 ton floor jack	
183	1 - 12 ton high lift jack	
184	2 - yellow air hoses	
185	1 - 100gal. Portable Diesel fuel tank	
186	1 - Fluke T5-1000 Volt/Amp meter	
187	1 - wheel barrow	
188	1 - garden cart	
189	1 - Garden power 65ft. 5/8" Auto-Retractable Garden Hose reel	
190	1 - portable hand work light	
191	1 - portable work light stand w/ dual mounted lights	
192	3 - Strong Arm electric winches for clarifier skimmer baskets	
193	1 - Strongway electric hoist for lift station pumps*	X
194	1 - AMT 3" trash pump w/wheel kit	
195	1 - 3" 50ft & 1 - 30ft suction/discharge hose w/couplings	
196	1 - North Star 3000 PSI Steam and Hot Water Pressure Washer	
197	1 - Warn 120 volt Winch/Hoist for pulling UV channel basket	
198	1 - Chapin Homepro backpack sprayer	

OFFICE INVENTORY

199	1 - wooden desk
200	1 - metal desk
201	4 - Office chairs
202	3 - file cabinets, 1 - 4 drawer & 2 - 2 drawer
203	1 - 3 shelf bookshelf
204	1 - PC , w, speaker in monitor, keyboard, and surge arrest---DELL
205	1 - MFC-7360N Brother copier / printer
206	1 - conference table
207	27 - folding steel chairs
208	3 - Phones (cradle style)
209	1 - Fellowes paper shredder
210	1 - Bissell vacuum cleaner
211	1 - Emerson TV / VCR Combo (for training)

**Lake Ozark / Osage Beach Joint Wastewater Plant
INVENTORY LIST
January 2021**

* & X = New 2020

- 212 1 - Magic chef refrigerator
213 1 - Culligan water cooler

CONSUMABLE MATERIALS

- 214 2 - 500 Gallon propane tanks, w/ 800 gallons as of 1/8/21 X
215 1 - 700 Gallon diesel fuel tank in Generator, w/ 700 gallons as of 1/8/21 X

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 - 1994 Volvo White GMC Sludge Truck vin# 4V2JCBE75R833094
219 1 - Kabota ZG123S 48" Zero-Turn Mower

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 - centrifuge-IEC centrifuge, not in use
235	1 - Incubator-Fisher ISO temp
236	1 - drying oven-Fisher ISO temp oven
237	1 - portable D.O. meter-YSI 550-A
238	1 - BOD meter & probe--YSI 5905, not in use, obsolete
239	1 - BOD Incubator- Fisher low temp model 307
240	1 - microscope-Micromaster
241	1 - Lab refrigerator-Marvel Division
242	2 - timers-West Bend
243	1 - Hanna portable pH meter
244	2 - Hach HQ40D meters, 1 with LBOD probe & 1 w/ Rugged LDO probe
245	1 - Hach Distillation Glassware set for Ammonia
246	1 - Thermo Hot plate for distillation
247	2 - Igloo Ice Maker for Samplers

**Lake Ozark / Osage Beach Joint Wastewater Plant
INVENTORY LIST
January 2021**

SAFETY EQUIPMENT

<u>Item No.</u>	<u>Quantity & Item</u>	<u>* & X = New 2020</u>
248	15 - Safety Glasses / Goggles	
249	2 - Face Shield	
250	2 - UV Face shields	
251	4 - Rubber Gloves	
252	25 - Disposable Gloves	
253	6 - Dust Mask/Respirators	
254	2 - Ear Protection muffs & 6 pair disposable ear plugs	
255	1 - Eye Wash Stations	
256	2 - Back Supports	
257	1 - Gas Detector / Monitor, portable RKI GX-3R with (Bump/Calibration kit*)	X
258	1 - Lock Out/Tagout Station	
259	2 - Full Body Harness	
260	2 - Lanyards	
261	1 - Tripod and Winch	
262	3 - First Aid Kits	
263	6 - Fire Extinguishers, Plant	
264	1 - Fire Extinguishers, Office	
265	3 - Fire Extinguishers, Vehicles	

SPARE EQUIPMENT & PARTS

266	4 - electrical contact relay for pista grit*	
267	1 - 3 phase monitors for lift stations	
268	3 - Allen Bradley PLC I/O Boards for UV control panel	
269	52 - UV bulbs	
270	56 - UV quartz sleeve	
271	3 - UV ballast	
272	2 - UV air cylinder rebuild kit & 2 outer bands	
273	4 - New UV air cylinder *	X
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 - Vac pump rebuild kit for 1600 gal Field Gymmy sludge truck	
281	1 - Carboy for BOD water	
282	1 - electric cylinder valve for back of sludge truck	
283	1 - Fluorescent bulb ballast & 20 T-8 bulbs	
284	1 - quantity of assorted ¾, & 1" PVC pipe fittings	
285	1 - quantity of assorted nuts & bolts	
286	1 - Transtector ACP-100 surge suppressor	
287	1 - Transtector PDS I tube surge protector	
288	1 - Alternating relay for lift stations	

THIS PAGE INTENTIONALLY LEFT BLANK

The Lake of the Ozark Regional Wastewater Treatment Plant #1

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

January 2021

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.

Table of Contents	Page #
Section I	
• Preliminary Damage Assessment Check List	02
• Personnel Inventory, Contact Order & Training	03
• Facility Emergency Equipment Inventory	04
• Command Post Designation	04
• Communication Policy	05
• Emergency Action Plan	06
• Fire Protection Plan & Hot Work Permit	07-08
• Emergency Identification and Analysis	09
• Facilities Security	10
• Priority Equipment and Processes	10
• Emergency Response Guidelines	11
Section II	
• Damage and Response	12-16
Section III	
• Contingency Plan for Total Loss of Power	16
• Contingency Plan for High Flows	16
• Contingency Plan for Toxic Chemical Releases	17
• Contingency Plan for SSO's	18
• Contingency Plan for Sludge Spills	18
Appendix 1	
• List of Key Contacts & Local Utilities/Services/Suppliers	19-22
Appendix 2	
• Chemical List & Facilities Map	23-24
Appendix 3	
• Standard Conditions for NPDES Permits	25
Appendix 4	
• Daily Readings-Weekly Maintenance Instructions	25-26
Appendix 5	
• Permit Required Confined Spaces & Entry Permit	26-28
Appendix 6	
• Lockout Instructions & LOTO Permit	29-30
Appendix 7	
• Deviation Notification Form & Wastewater Bypass Report Form	31-32

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> 1/12/12	2012	<i>Initials:</i>	GH
<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> 1/8/21	2021	<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
Christopher Beale	Utiltiy Worker I	573-365-0455		816-745-1405
Ron Smith	Division Manager	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		Christopher Beale	
4			Lonnie Madole
5			Kevin Klein
6			Josh Thompson
7	Ron Smith		
8	Tony Sneed		
9	Tim Geraghty		

Client	Jenna Woods
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)
Christopher Beale	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. 60' 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. GMC 4 Wheel drive Field pump truck with 1600 gallon tank w/ 20' of 6" suction hose.
- g. Wire feed Welder (1)
- h. 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
• Christopher Beals	573-365-0455	816-745-1405	
• John Hornback	573-365-0455	573-480-4065	573-369-2761
• Lonnie Madole	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	660-492-2144	
• Tony Sneed	573-874-8080x302	256-278-1264	
• Tim Geraghty	573-874-8080 x229	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

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
☒			To be provided during and 30 minutes after work completion?
☒			Supplied with fire extinguisher and or small charged fire hose?
☒			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.

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 Carrouseaux. 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 carousel 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
Christopher Beale	Utility Worker I	573-365-0455	816-745-1405	
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
Caleb Robinett	Osage Beach Sewer Supervisor	573-302-2020	573-280-2473
Dave VanDee	City Admin. Lake Ozark	573-365-5378	573-280-6992
Matt Michalik	Dir. P/W Lake Ozark	573-365-5378	573-216-6063
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
Phyllis Marose	Board Member / Osage Beach	573-302-2000
Gary Hamner	Board Member / Osage Beach	573-302-2000
Gerry Murawski	Mayor / Lake Ozark	573-365-5378
Judy Neels	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	
Caleb Robinett	Osage Beach	573-302-2020	573-280-2473	
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	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 Work	Steve Butler	Drain Masters, LLC		573-216-1169
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	Delbert	Purcell Tire	573-348-4010	573-836-0038
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 Contacts

Names	Office	Phone #	Fax #
Troy Potteiger	Osage Beach	573-348-4103	573-348-2568
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	

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

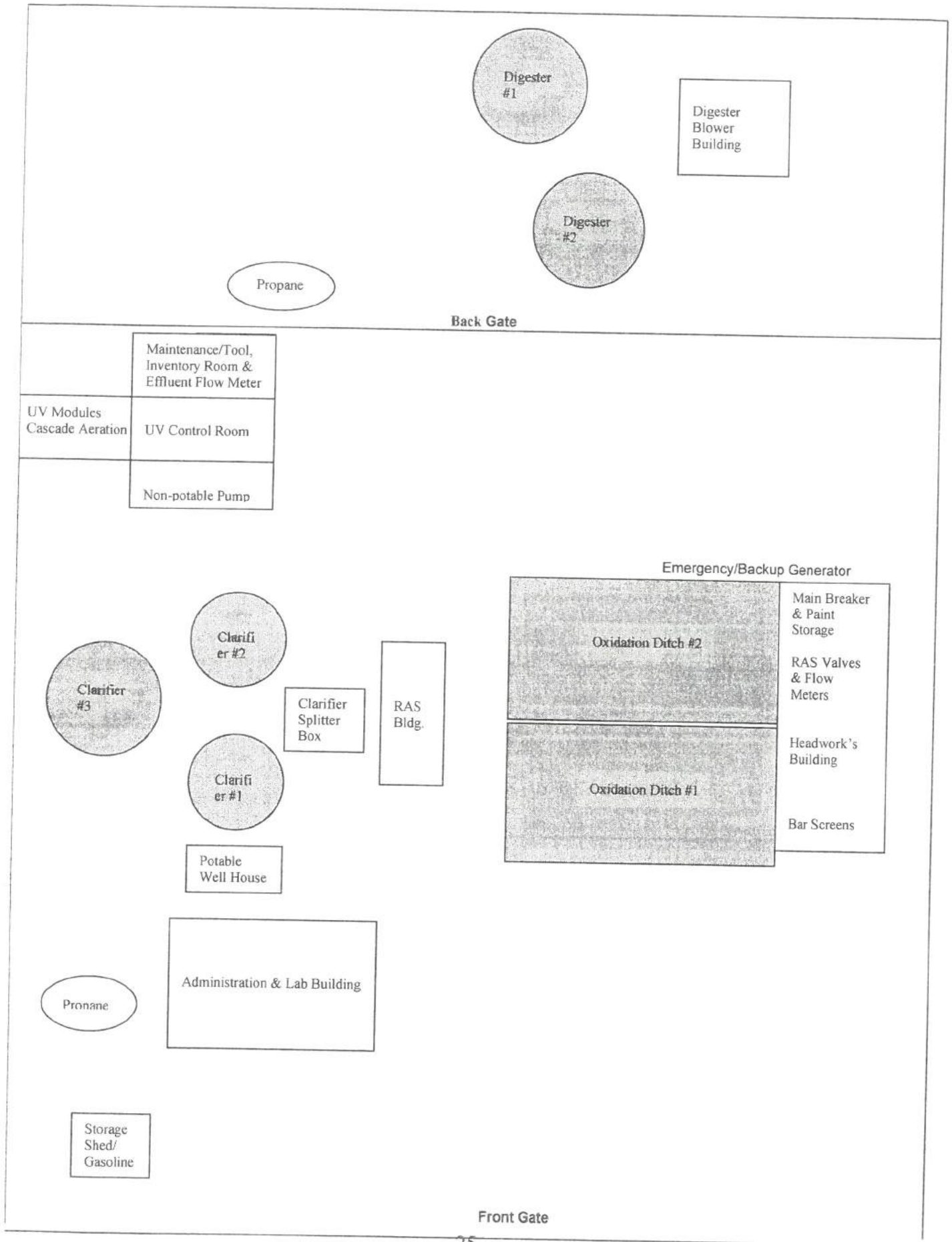
- Chevron Tube Grease
- Mystic tube Grease
- Hydraulic fluid
- Assorted cans spray paint
- Assorted cans building and grounds paint.
- Paint thinner / solvents

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.

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/Tried
- ☐ 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 SANITARY 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 ☐ Inflow & Infiltration Rain Inches _____ ☐ Other _____ ☐ Power Outage ☐ Plugged Sewer Manhole location # _____ ☐ Broken Sewer ☐ Equipment Failure ☐ Widespread Flooding	
f. Categories of STP Bypass	
☐ Head Works ☐ Primary Basins ☐ Other _____ ☐ Aeration/Biological Treatment ☐ Clarifiers ☐ Digester ☐ Solids Handling/Drying Beds	
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:	⁴ DATE:

THIS PAGE INTENTIONALLY LEFT BLANK