

**OSAGE BEACH / LAKE OZARK  
JOINT SEWER BOARD MEETING  
AGENDA  
FEBRUARY 16, 2016 @ 4:00 p.m.  
LAKE OZARK CITY HALL**

**1. CALL TO ORDER**

**2. ROLL CALL**

Mayor, Osage Beach, Penny Lyons  
Mayor, Lake Ozark, Johnnie Franzeskos  
City Administrator, Osage Beach, Jeana Woods  
City Administrator, Lake Ozark, Dave Van Dee  
Alderman, Lake Ozark, Gerry Murawski  
Alderman, Osage Beach, Open  
Public Works Director, Osage Beach, Nick Edelman  
Public Works Director, Lake Ozark, Matt Michalik  
Resident Member, Mr. Gary Hamner

**3. MINUTES**

**Page Numbers**

Regular Meeting; November 17, 2015

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**4. REPORTS**

**January 2016**

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December 2015 Alliance Report of Operations	55-69

**February 2016**

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Check Registers & Bank Statements	85-88

January 2016 Alliance Report of Operations	89-104
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**5. OLD BUSINESS**

A. Magruder litigation

**6. NEW BUSINESS:**

- |    |  |         |
|----|--|---------|
| A. | Discussion & Approval of the Emergency Response Plan | 105-138 |
| B. | Discussion & Approval of the Plant Inventory         | 139-145 |

**7. ADDITIONAL DISCUSSION ITEMS**

**8. ADJOURNMENT**

**THE NEXT MEETING WILL BE MARCH 15, 2016, 4:00 PM @ LAKE OZARK CITY HALL**

**LAKE OZARK - OSAGE BEACH  
JOINT SEWER BOARD  
Meeting Minutes – November 17, 2015**

**Call to Order:**

Mayor Johnnie Franzeskos called the meeting to order at 4:00 p.m. on Tuesday, November 17, 2015 at Lake Ozark City Hall.

**Roll Call:**

Penny Lyons, Mayor  
Johnnie Franzeskos, Mayor  
Dave Van Dee, City Administrator  
Jeana Woods, City Administrator  
Jeff Bethurem, Alderman  
Gerry Murawski, Alderman  
Gary Hamner, Resident  
Nick Edelman, Public Works Director  
Matt Michalik, Public Works Director

**Others Present:**

Gary Hutchcraft, Plant Manager  
Gary Johnson, Alliance Water Resources  
Ed Rucker, Osage Beach City Attorney  
Kari Bell, Osage Beach Treasurer

**Minutes of Past Meeting:**

*Mayor Lyons requested a motion to approve the October 20, 2015 meeting minutes. Mr. Hamner motioned to approve the minutes as written. Second by Mayor Franzeskos with unanimous approval of the remaining Board members.*

**Public Comment:** None at this time.

**Bills List:** *Mayor Lyons requested a motion to approve the Bills List. Jeff Bethurem motioned approval of the bills list. Second by Mr. Murawski with unanimous approval of the remaining Board members.*

**Reports:**

REVENUE BUDGET ANALYSIS  
EXPENDITURE BUDGET ANALYSIS  
INCOME & EXPENSE SUMMARY  
CASH FLOW ANALYSIS  
BALANCE SHEET  
CHECK REGISTERS & BANK STATEMENTS

**Alliance Report & Flow Charts:**

Mr. Hutchcraft reviewed the October 2015 Alliance Reports and Flow Charts and presented his monthly summary report of operations. Copies of the reports and charts were included in the meeting packet.

*Mayor Lyons requested a motion to approve the October 2015 Flow Chart. Gary Hamner motioned approval. Second by Mayor Franzeskos with unanimous approval.*

**Old Business:** None at this time.

**New Business:**

- A. Review and Approval of the 2016 Budget

*Mayor Lyons requested a motion to approve the 2016 Budget. Gary Hamner motioned approval. Second by Gerry Murawski with unanimous approval.*

- B. Review and Approval of the December Bills –Included in budget sheets.

*Mayor Lyons requested a motion to approve the December Bills. Dave Van Dee motioned approval. Second by Gerry Murawski with unanimous approval.*

- C. Review and Approve changing paper statement to e-statement for the Operating account with CBOLO.

*Mayor Lyons requested a motion to approve the December Bills. Mayor Franzeskos motioned approval. Second by Jeff Bethurem with unanimous approval.*

**Other Discussion:** None at this time.

**Adjournment:**

With nothing further to discuss, Mayor Lyons declared the meeting adjourned at 4:15 pm. The next scheduled meeting is Tuesday, January 19, 2016, 4:00 pm. At Lake Ozark City Hall.

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Penny Lyons  
Osage Beach Mayor

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Norma M. Thompson  
Lake Ozark Joint Sewer Clerk

JOINT SEWER BOARD  
BILL LIST  
JANUARY 19, 2016

OPERATING FUND BILLS PAID PRIOR TO BOARD MEETING:	\$ 38,741.67
OPERATING FUND BILLS TO BE PAID:	\$ 33,774.33
EQUIPMENT REPLACEMENT FUND BILLS PAID PRIOR TO BOARD MEETING:	\$ -
EQUIPMENT REPLACEMENT FUND BILLS TO BE PAID:	\$ -
<b>TOTAL</b>	<b>\$ 72,516.00</b>

OPERATING FUND BILLS PAID PRIOR TO BOARD MEETING:

Account	Check	Paid To:	Description:	Amount:
4220	3486	Zerger & Mauer LLP	August & September Legal Fees	\$ 1,778.49
4175	3487	Ameren MO	Nov 2015 Electric	\$ 4,555.96
4000	3488	Equipment Replacement Fund	Payment into ER Fund	\$ 3,467.17
4170	3489	Alliance Water Resources, Inc.	Management Fee	\$ 24,686.09
4020	3490	Evans Enterprises Inc	Repair Smith & Loveless Motor	\$ 2,532.01
4020	3491	Alliance Water Resources, Inc.	Impeller for Motor	\$ 1,721.95
<b>TOTAL</b>				<b>\$ 38,741.67</b>

OPERATING FUND BILLS TO BE PAID:

Account	Check	Paid To:	Description:	Amount:
4175	3492	Ameren MO	Dec 2015 Electric	\$ 4,412.83
4000	3493	Equipment Replacement Fund	Payment into ER Fund	\$ 3,467.17
4170	3494	Alliance Water Resources, Inc.	Management Fee	\$ 25,303.24
4020	3495	Alliance Water Resources, Inc.	Sodium Hid Bulb, Aesthetix Electric Repairs	\$ 489.45
4150	3495	Alliance Water Resources, Inc.	Filters	\$ 101.64
				<b>\$ 33,774.33</b>

EQUIPMENT REPLACEMENT FUND BILLS PAID PRIOR TO BOARD MEETING:

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

EQUIPMENT REPLACEMENT FUND BILLS TO BE PAID:

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

ZERGER & MAUER LLP  
1100 Main Street  
Suite 2100  
Kansas City, MO 64108 816/759-3300 Federal ID No. 27-5426971

# INVOICE

**PRIVILEGED & CONFIDENTIAL**

City of Osage Beach  
c/o Ed Rucker, Esq.  
1000 City Parkway  
Osage Beach, MO 65065

Invoice Date: 09/29/2015

Previous Balance	Fees	Expenses	Advances	Payments	
1014-0002 Magruder					
591.50	1,518.00	31.74	228.75	-591.50	<u>\$1,778.49</u>



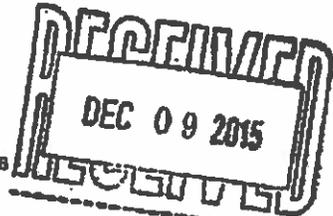
Please Return This Portion With Your Payment.

\$4,485.46	Dec 21, 2015
\$4,552.74	45800-05032

Amount Enclosed \$ \_\_\_\_\_

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

Ameren Missouri  
P.O. Box 88068  
Chicago, IL 60680-1068



20600000 0045800058302 000004485460 000004485460

Keep This Portion For Your Records

45800-05032
ALLIANCE WATER RESOURCES INC
3 ANDERSON RD, - LAKE OZARK, MO 65049

Dec 9, 2015
-------------

Dec 21, 2015	\$4,485.46
Jan 4, 2016	\$4,552.74

Payment Received on Nov 20, 2015 \$4,506.72

Total kWh	11673321	11/04-12/07	33	31885.0000	32320.0000	435.0000	160.0000	69600.0000A
Peak kW	11673321	11/04-12/07	33	0.0000	0.9140	0.9140	160.0000	146.2400A

	Service To	SUMMARY	Service To		
Total kWh	12/07/2015	69600.0000	Peak kW	12/07/2015	146.2000
Total Billing Demand	12/07/2015	146.2000	October Winter Base kW	12/07/2015	145.1000
Winter Base Demand	12/07/2015	145.1000	Base kWh Ratio	12/07/2015	0.9924
Base kWh (HWD)	12/07/2015	69072.0000	Seasonal kWh (HWD)	12/07/2015	529.0000

METERED ELECTRIC SERVICE BILLING

Rate 3M Large General Service	Service From 11/04/2015	To 12/07/2015	
Seasonal Energy Charge	529.00 kWh	@ \$0.3800000	\$20.10
Demand Charge	146.20 kW	@ \$1.7900000	\$261.70
Base Energy Chg / Hours Used	21,765.00 kWh	@ \$0.06520000	\$1,416.90
Base Energy Chg / Hours Used	29,020.00 kWh	@ \$0.04830000	\$1,401.57
Customer Charge	10,206.00 kWh	@ \$0.03800000	\$394.87
Fuel Adjustment Charge	69,600.00 kWh	@ \$0.00462000	\$321.55
Energy Efficiency Pgm Charge	69,600.00 kWh	@ \$0.00040000	\$27.84
Energy Efficiency Invest Chg	69,600.00 kWh	@ \$0.00356300	\$247.98
Total Service Amount			\$4,485.46

Current Amount Due	\$4,485.46
Prior Amount Due	\$0.00
Total Amount Due	\$4,485.46

The ActOnEnergy® BizSavers® program has CASH INCENTIVES available for your next energy efficiency project! Everything from lighting to controls to new construction. Visit ActOnEnergy.com/BizSavers to learn more.

A late payment charge of 1.5% will be added for any unpaid balance on all accounts after the delinquent date.



Please Return This Portion With Your Payment.

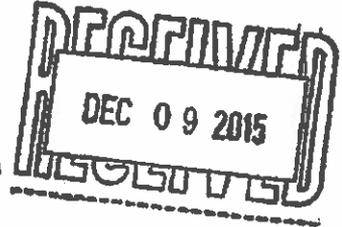
Pure Power

\$70.50	Dec 21, 2015
\$71.56	55800-05920

Amount Enclosed \$ \_\_\_\_\_

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

Ameren Missouri  
P.O. Box 88068  
Chicago, IL 60680-1068



90633000 0055800059200 000000070500 000000070500

Keep This Portion For Your Records

55800-05920
ALLIANCE WATER RESOURCES INC
3 ANDERSON RD LAKE OZARK, MO 65049

Dec 9, 2015
-------------

Dec 21, 2015	\$70.50
Jan 4, 2016	\$71.56

Payment Received on Nov 20, 2015 \$113.66

Total kWh	98041275	11/04-12/07	33	9436.0000	9493.0000	57.0000	10.0000	570.0000A
Peak kW	98041275	11/04-12/07	33	0.0000	4.0320	4.0320	10.0000	40.3200A

Total kWh	12/07/2015	570.0000	Winter Base kWh	12/07/2015	1820.0000
Current Base kWh	12/07/2015	570.0000	Seasonal kWh	12/07/2015	0.0000

METERED ELECTRIC SERVICE BILLING

Rate 2M Sm Gen Svc - 3 Ph w/Dmd  
Threshold - Peak Demand  
Service From 11/04/2015 To 12/07/2015

Base Energy Charge	570.00 kWh	@ \$0.08060000	\$45.94
Seasonal Energy Charge	0.00 kWh	@ \$0.04650000	\$0.00
Customer Charge			\$20.43
Fuel Adjustment Charge	570.00 kWh	@ \$0.00462000	\$2.63
Energy Efficiency Pgm Charge	570.00 kWh	@ \$0.00020000	\$0.11
Energy Efficiency Invest Chg	570.00 kWh	@ \$0.00243500	\$1.39
Total Service Amount			\$70.50

Current Amount Due	\$70.50
Prior Amount Due	\$0.00
Total Amount Due	\$70.50

The ActOnEnergy® BizSavers® program has CASH INCENTIVES available for your next energy efficiency project! Everything from lighting to controls to new construction. Visit ActOnEnergy.com/BizSavers to learn more.

Sign up for Pure Power to support clean renewable energy in Missouri and the Midwest. By checking the box, a 1 cent per kilowatt hour charge will apply. You may cancel at any time.

A late payment charge of 1.5% will be added for any unpaid balance on all accounts after the delinquent date.

**Alliance Water Resources, Inc.**

*Professional Water and Wastewater Operations*

206 South Keene Street

Columbia, Missouri 65201

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

**INVOICE**

Invoice No: 6700

1-Dec-15

Customer No: 20220

Terms: 30 days

SOLD TO:

Lake Ozark/Osage Beach Joint Utility Board

c/o Karri Bell

City of Osage Beach

1000 City Parkway

Osage Beach, MO 65065

REFERENCE	DESCRIPTION	AMOUNT
	Wastewater Plant operating service for month of Dec-15 Base Fee	\$24,686.09
TOTAL DUE		\$24,686.09



**Alliance Water Resources, Inc.**

*Professional Water and Wastewater Operations*

206 South Keens Street

Columbia, Missouri 65201

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

**INVOICE**

Invoice No: 8701

Invoice Date: 1-Dec-16

Customer No: 20220

Terms: 30 days

**SOLD TO:**

Lake Ozark/Osage Beach Joint Utility Board

c/o Karri Bell

City of Osage Beach

1000 City Parkway

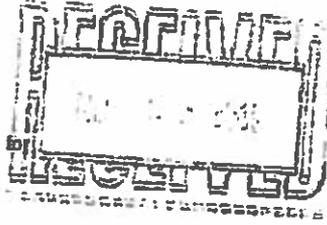
Osage Beach, MO 65066

REFERENCE	DESCRIPTION	AMOUNT
	Smith & Loveless, Inc - 1 Invoice 100%	\$1,664.45
	Sears - 1 Invoice 50%	\$57.50
<b>TOTAL DUE</b>		<b>\$1,721.95</b>



Smith & Loveless, Inc.

14040 Santa Fe Trail Drive  
Lenexa, KS 66215-1284, USA  
Phn: 913.888.5201  
Fax: 913.888.5520  
www.smithandloveless.com



# INVOICE 106698

SALES ORDER NO. <b>PS82496</b>	DATE INVOICED <b>11/03/15</b>
PACKING SLIP NO. <b>PS82496*1</b>	DATE SHIPPED <b>11/03/15</b>
CUSTOMER PURCHASE ORDER NO. <b>VERABL</b>	
SALES REPRESENTATIVE <b>MUNICIPAL EQPT CO</b>	CODE <b>CB</b>
SHIPPED VIA <b>CUSTOMER PICK-UP</b>	PPD <input checked="" type="checkbox"/> COL
PAYMENT TERMS <b>NET 30</b>	TAX <input checked="" type="checkbox"/> TAX CODE <b>A2</b>

No material may be returned to Smith & Loveless for credit or replacement without a return goods authorization.  
Contact Parts Dept., 913-888-5201 ext 243.

<b>SOLD TO</b> 10*13552 ALLIANCE WATER RESOURCES (see CM comments) #3 ANDERSON RD PO BOX 1985 LAKE OZARK MO 66049 USA	<b>SHIP TO</b> 10*13552 ALLIANCE WATER RESOURCES PICKUP CAMDENTON, MO 65049 USA
--	--

ITEM	PRODUCT DESCRIPTION	QTY ORDERED	QTY SHIPPED	QTY F.O.B.	UNIT PRICE	TOTAL PRICE
001	87D103-71 IMPLR CW 7 1/8	1	1		1664.45000	1,664.45
<p>VERBAL ORDER PER GARY 10/21/15 PHONE 573-365-0455 FAX 573-365-0455 (SAME) SERIAL# 03-0506 POSSIBLE PICK UP IN CAMDENTON.... WILL CONFIRM DETAILS</p> <p>GL Acct#: <u>1220-20 100%</u> 4020 Signature: <u>[Signature]</u> Date: <u>11/9/15</u> LONE VENDOR</p>						

**REMIT TO:**  
Smith & Loveless, Inc.  
P.O. BOX 2383  
Shawnee Mission, Ks 66201

Form No 04-04-633

ATTN: If we have charged State and local sales taxes, and you are tax exempt, please forward with your remittance a copy of your exemption certificate.

<b>SUBTOTAL</b>	1,664.45
<b>DISCOUNT</b>	0.00
<b>TAX</b>	0.00
<b>Credit</b>	0.00
<b>US Dollars</b>	1,664.45

Customer

sears

Sears

OSAGE BEACH - AUTH H 03762  
3629 OSAGE BEACH PARKWAY  
OSAGE BEACH, MO 65065-0000

573-348-8999



sears

sears

SALESCHECK # 037629025575

sears

sears

CUSTOMER:  
ALLIANCE WATER RESOURCES

TRANS PG/STORE REG# ASSOC#  
15575 10 03762 902 1099

SALE

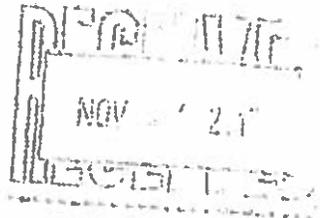
44-28460 25CC GAS B SAL 59.99  
892071 PURCH PROTCT 15.00  
SUBTOTAL 114.95  
TAX 07.475% 7.47

sears

CARD TYPE: COMMERCIAL 4  
ACCT #: 40622/0  
AUTH CODE: 010046/E  
P.O. NUMBER: GARY  
11/10/15 COMMERCIAL 1 TOTAL 122.46

sears

sears



RC: 5939-1173-2980-3919-0619

sears

SPP CONTACT NUMBER: 1-800-573-1088  
SPP WEB CLAIMS:  
[www.searspurchaseprotect.com](http://www.searspurchaseprotect.com)

sears

I AGREE TO THE TERMS OF  
MY CARDHOLDER AGREEMENT.

sears

GL Acct#: 6700-20 \$64.96 1220-20 \$57.50  
Signature: Gary Hulekwa  
Date: 11/10/15



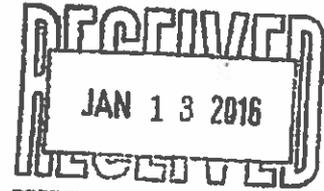
Please Return This Portion With Your Payment.

\$4,299.27	Jan 25, 2016
\$4,363.76	45800-05832

Amount Enclosed \$ \_\_\_\_\_

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

Ameren Missouri  
P.O. Box 88068  
Chicago, IL 60680-1068



00600000 0045800058302 000004299270 000004299270

Keep This Portion For Your Records

45800-05832
ALLIANCE WATER RESOURCES INC
3 ANDERSON RD, - LAKE OZARK, MO 65049

Jan 12, 2016
--------------

Jan 25, 2016	\$4,299.27
Feb 3, 2016	\$4,363.76

Payment Received on Dec 18, 2015 \$4,485.48

Total kWh	11673321	12/07-01/10	34	32320.0000	32734.0000	414.0000	150.0000	66240.0000A
Peak kW	11673321	12/07-01/10	34	0.0000	0.8850	0.8850	160.0000	141.6000A

	Service To	SUMMARY	Service To		
Total kWh	01/10/2016	66240.0000	Peak kW	01/10/2016	141.6000
Total Billing Demand	01/10/2016	141.6000	October Winter Base kW	01/10/2016	145.1000
Winter Base Demand	01/10/2016	141.6000	Base kWh Ratio	01/10/2016	1.0000
Base kWh (SUD)	01/10/2016	66240.0000	Seasonal kWh (SUD)	01/10/2016	0.0000

METERED ELECTRIC SERVICE BILLING

Rate JM Large General Service	Service From 12/07/2015	To 01/10/2016
Seasonal Energy Charge	0.00 kWh @ \$0.03800000	\$0.00
Demand Charge	141.60 kW @ \$1.79000000	\$253.46
Base Energy Chg / Hours Used	21,240.00 kWh @ \$0.06510000	\$1,382.72
Base Energy Chg / Hours Used	28,320.00 kWh @ \$0.04830000	\$1,367.86
Base Energy Chg / Hours Used	16,680.00 kWh @ \$0.03800000	\$633.84
Customer Charge		\$92.85
Fuel Adjustment Charge	66,240.00 kWh @ \$0.00462000	\$306.03
Energy Efficiency Pgm Charge	66,240.00 kWh @ \$0.00040000	\$26.50
Energy Efficiency Incent Chg	66,240.00 kWh @ \$0.00356300	\$236.01
Total Service Amount		\$4,299.27

Current Amount Due	\$4,299.27
Prior Amount Due	\$0.00
Total Amount Due	\$4,299.27

The ActOnEnergy® BizSavers® program has CASH INCENTIVES available for your next energy efficiency project! Everything from lighting to controls to new construction. Visit ActOnEnergy.com/BizSavers to learn more.

A late payment charge of 1.5% will be added for any unpaid balance on all accounts after the delinquent date.



Please Return This Portion With Your Payment.

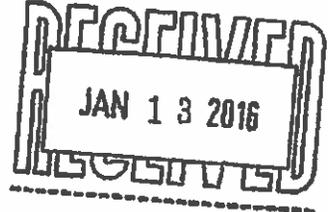
Pure Power

\$113.56	Jan 26, 2016
\$115.26	55800-05920

Amount Enclosed \$ \_\_\_\_\_

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

Ameren Missouri  
P.O. Box 88088  
Chicago, IL 60688-1068



50633000 0055800059200 000000113560 000000113560

Keep This Portion For Your Records

55800-05920
ALLIANCE WATER RESOURCES INC
3 ANDERSON RD LAKE OZARK, MO 65049

Jan 13, 2016
--------------

Jan 26, 2016	\$113.56
Feb 4, 2016	\$115.26

Payment Received on Dec 16, 2015 \$70.50

Total kWh	98042275	12/07-01/10	34	9493.0000	9599.0000	106.0000	10.0000	1060.0000A
Peak kW	98042275	12/07-01/10	34	0.0000	1.0590	1.0590	10.0000	10.5900A

Service To		<b>SUMMARY</b>		Service To	
Total kWh	01/10/2016	1060.0000	Winter Base kWh	01/10/2016	1610.0000
Current Base kWh	01/10/2016	1060.0000	Seasonal kWh	01/10/2016	0.0000

**METERED ELECTRIC SERVICE BILLING**

Rate 2M Sm Gen Svc - 3 Ph w/Dmd  
Threshold - Peak Demand  
Service From 12/07/2015 To 01/10/2016

Base Energy Charge	1,060.00 kWh	@ \$0.08050000	\$85.44
Seasonal Energy Charge	0.00 kWh	@ \$0.06650000	\$0.00
Customer Charge			\$20.43
Fuel Adjustment Charge	1,060.00 kWh	@ \$0.00462000	\$4.90
Energy Efficiency Pgm Charge	1,060.00 kWh	@ \$0.00200000	\$0.21
Energy Efficiency Invest Chg	1,060.00 kWh	@ \$0.00243500	\$2.58
<b>Total Service Amount</b>			<b>\$113.56</b>

Current Amount Due	\$113.56
Prior Amount Due	\$0.00
<b>Total Amount Due</b>	<b>\$113.56</b>

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A late payment charge of 1.5% will be added for any unpaid balance on all accounts after the delinquent date.

**Alliance Water Resources, Inc.**  
*Professional Water and Wastewater Operations*  
 208 South Keane Street  
 Columbia, Missouri 65201  
 (573) 874-8080 Fax (573) 443-0833

INVOICE

Invoice No: 6739

1-Jan-16

SOLD TO

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

Customer No: 20220

Terms: 30 days

REFERENCE	DESCRIPTION	AMOUNT
	Wastewater Plant operating service for month of Jan-16  Base Fee	\$25,303.24
<b>TOTAL DUE</b>		<b>\$25,303.24</b>



December 15, 2015

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

Board of Directors:

As per the terms and conditions of the Alliance O&M Agreement, the base fee is adjusted on January 1<sup>st</sup> 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's CPI- All Urban Consumers Midwest – Size Class D, not seasonally adjusted (Series ID: CUURD200SA0). The most recent CPI data used to calculate the 2015 base contract fee was September 2015. Accordingly, the 2016 base contract fee will use the 12 month period from October 2014 through September 2015.

The appropriate indices and resulting contract adjustment is calculated as follows:

CPI	September 2015	222.183
CPI	October 2014	222.847

$$\begin{aligned} \text{CPI Increase} &= (222.183 - 222.847) / 222.847 \\ &= + .3\% \end{aligned}$$

Per contract, the base fee is adjusted annually at the CPI percentage increase/decrease plus 0.5% but not less than 2.5% annually nor more than 6.5% annually. The CPI adjustment plus the 0.5% is .7%, therefore the base rate is adjusted at + 2.5% beginning January 2016.

Adjusted O&M Fee:

Previous Monthly Fee	=	\$24,686.09 x 1.025
New Monthly Fee	=	\$25,303.24

The invoice for January 2016 will reflect the new base fee of \$25,303.24 per month.

On behalf of Gary Hutchcraft, and our entire staff at Alliance Water Resources, thank you for letting us be of service to your communities.

Sincerely,  
Alliance Water Resources

A handwritten signature in black ink, appearing to read "Gary Johnson", written over a horizontal line.

Gary Johnson  
Divisional Manager

cc: Board of Directors  
Tim Geraghty  
Gary Hutchcraft  
Dale Wagner

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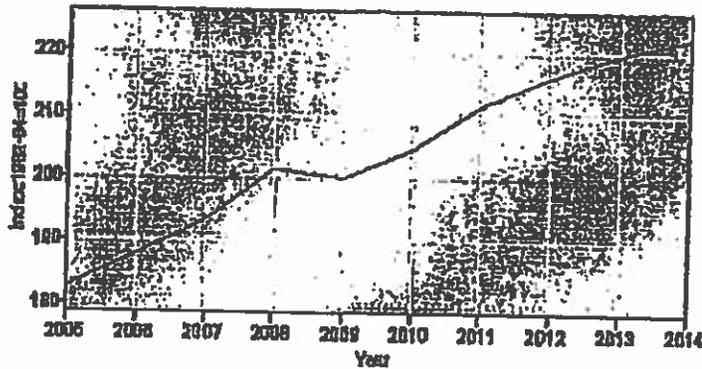
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Data extracted on: November 18, 2015 (10:57:28 AM)

### Consumer Price Index - All Urban Consumers

Series Id: CUUR0200SA0  
 Not Seasonally Adjusted  
 Area: Midwest - Size Class D  
 Item: All Items  
 Base Period: 1982-84=100



Download: [CSV](#)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	HALF1	HALF2
2005	178.2	179.2	179.9	181.7	181.6	182.3	182.9	184.6	187.2	186.8	185.0	184.1	182.8	180.5	185.2
2006	185.3	185.2	186.7	187.8	188.1	189.3	190.1	190.9	189.1	187.1	187.0	187.1	187.8	187.1	188.6
2007	187.587	188.122	190.365	191.685	193.467	194.442	194.815	194.716	195.483	195.054	196.569	195.819	193.177	190.945	195.409
2008	196.708	197.596	199.472	200.841	202.720	205.122	206.435	206.251	205.522	202.086	197.883	195.383	201.335	200.410	202.260
2009	195.843	196.421	197.267	197.644	198.911	201.157	200.908	201.823	201.918	202.499	203.047	202.738	200.815	197.874	202.158
2010	203.490	203.274	204.204	204.326	204.026	203.749	203.992	204.985	205.100	205.565	206.014	206.136	204.572	203.845	205.289
2011	207.551	208.156	209.713	211.314	212.210	211.717	212.261	213.089	213.606	212.476	212.907	212.505	211.452	210.110	212.794
2012	213.649	214.524	215.784	216.658	215.254	215.625	216.045	217.300	217.986	217.467	216.253	215.962	216.042	215.249	216.836
2013	217.217	219.311	219.603	218.915	220.614	220.610	220.713	220.769	220.439	219.220	219.582	219.291	219.690	219.378	220.002
2014	220.129	221.297	222.821	223.141	223.215	223.766	223.621	223.432	224.125	222.847	221.237	219.393	222.419	222.395	222.443
2015	218.080	219.279	220.708	220.790	221.748	222.372	222.828	222.932	222.183	222.397					220.496

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[Disability.gov](#)

**Alliance Water Resources, Inc.**

*Professional Water and Wastewater Operations*

206 South Keene Street  
 Columbia, Missouri 65201  
 (573) 874-8980 Fax (573) 443-0933

**INVOICE**

Invoice No: 6740

Invoice Date: 1-Jan-16

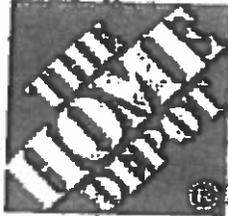
Customer No: 20220

Terms: 30 days

**SOLD TO**

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

REFERENCE	DESCRIPTION	AMOUNT
	Home Depot - 2 invoices 50%	
	Trans # 77475	72.46
	Trans # 42241	<u>-6.49</u>
		\$65.97
	Aesthetix Electric -1 Invoice - 50%	\$332.50
	Lowe's 1 Invoice - 50%	\$90.98
	Roemer's Heavy Equipment- 1 Invoice - 50%	\$101.64
<b>TOTAL DUE</b>		<b>\$591.09</b>



More saving.  
More doing.™

4030 HWY 54  
OSAGE BEACH, MO 65065 (573)348-0082

3027 00002 77475 12/09/15 01:14-PM  
CASHIER ANDREA - ALC3478

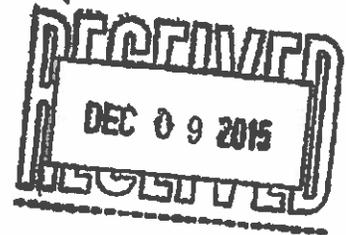
081077003521 PHOTO CNTRL <A> 12.97  
1800-WATT STEM MT SWIVEL ADJ LT CTRL  
046677253912 400MHPS <A>  
PLC 400W ED18 HP SODIUM HID BULB  
6821.99 131.94

SUBTOTAL 144.91  
SALES TAX 10.83  
TOTAL \$155.74

XXXXXXXXXXXX06759 HOME DEPOT  
AUTH CODE 009087/1024438 TA

ALLIANCE WATER RESOURCES  
WATER RESOURCES ALLIANCE

P.O.#/JOB NAME: GARY



3027 82-77475-12/09/2015 2791

RETURN POLICY DEFINITIONS  
POLICY ID DAYS POLICY EXPIRES ON  
1 90 03/08/2016  
THE HOME DEPOT RESERVES THE RIGHT TO  
LIMIT / DENY RETURNS. PLEASE SEE THE  
RETURN POLICY SIGN-IN STORES FOR  
DETAILS.

BUY ONLINE PICK-UP IN STORE  
AVAILABLE NOW ON HOMEDEPOT.COM.  
CONVENIENT, EASY AND MOST ORDERS  
READY IN LESS THAN 2 HOURS!

GL Acct#: 6700-20 \$83.28 1220-20 \$72.46

Signature: Gary Hutchcraft

Date: 12/9/15



More saving.  
More doing.™

4030 HWY 54  
OSAGE BEACH, MO 65065 (573)348-0082

3027 00010 42241 12/10/15 01:37 PM  
CASHIER ASHLEE - ADMS277  
\* ORIG REC: 3027 002 77475 12/09/15 TA \*

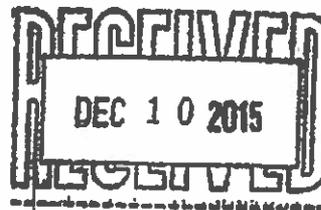
081077003521 PHOTO CNTRL -12.97

SUBTOTAL -12.97  
SALES TAX -0.97  
TOTAL -\$13.94

XXXXXXXXXXXX6759 HOME DEPOT -13.94  
INVOICE 0103925 TA

REFUND-CUSTOMER COPY

BUY ONLINE PICK-UP IN STORE  
AVAILABLE NOW ON HOMEDEPOT.COM.  
CONVENIENT, EASY AND MOST ORDERS  
READY IN LESS THAN 2 HOURS!



CREDIT

GL Acct#: 6700-20<sup>4</sup>7.45 1220-20<sup>16</sup>6.49

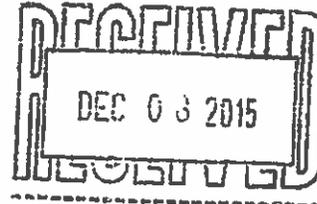
Signature: *Larry A. [unclear]* 40200

Date: 12/10/15

# AESTHETIX ELECTRIC

December, 4 2015

Alliance Water Resources  
Lake Ozark/Osage Beach  
PO Box 1985  
Lake Ozark Mo, 65049



Invoice #120415125

We Are Pleased to Offer the Following for Your Consideration:

**A. Clarifier #2 Control Repairs:**

- Repair Control Wiring Issues
- Replaced Phase Monitor
- Replaced Hand Off Auto Switch
- Reconnected Run Indication Light

**B. Clarifier #1 Control Repairs:**

- Checked Timers
- Found Contacts Needed Cleaned in Actuator Control Box
- Found a Bad Push Button in Control Panel "Needs to be Replaced"
- Found a Wire Terminated in Wrong Location in Control Panel
- Reconnected Run Indication Light

GL Acct#: 6705-20 \$332.50 1200-20 \$332.50 Invoice Total \$665.00

Signature: *Rory Hutchins*

4060

Date: 12/8/15

- Net 30 days with 1.5% added monthly

Steve Durbin  
Aesthetix Electric

THANK YOU FOR YOUR BUSINESS AND REFERRALS!

573.348.1429  
aesthetixelectric.com | steve@aesthetixelectric.com  
6181 Brook Hollow | Osage Beach MO, 65065

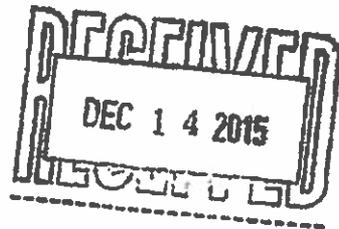


LOWE'S HOME CENTERS, LLC  
 950 HIGHWAY 42  
 OSAGE BEACH, MO 65065 (573) 302-8000

- SALE -

SALES#: S1147FN1 1526094 TRNHS: 43120555 12-14-15

96650	58	6-IN X 24-IN GUARD TRE	22.60
5.97		DISCOUNT EACH	-0.30
	4	B	5.67
592734		ALL PRO LED EXIT SIGN RED	142.44
49.98		DISCOUNT EACH	-2.50
	3	B	47.48
27300		2-IN X 5 YD OUTDOOR TREAD	9.48
9.98		DISCOUNT EACH	-0.50
96657	58	3/4-IN X 12-IN BLK SA	7.36
3.07		DISCOUNT EACH	-0.19
	2	B	3.68



SUBTOTAL: 181.96  
 TAX: 14.06  
 INVOICE 43449 TOTAL: 196.02  
 LCC: 196.02  
**TOTAL DISCOUNT: 9.58**  
 LCC:XXXXXXXXXXXX1300 AMOUNT:196.02 AUTHCD:000674  
 SWIPED REFID:960116 12/14/15 13:15:03  
 LBA/PO: GARY

*Gary D. Hutchcraft*

STORE: 1147 TERMINAL: 43 12/14/15 13:16:32  
 # OF ITEMS PURCHASED: 10  
 EXCLUDES FEES, SERVICES AND SPECIAL ORDER ITEMS



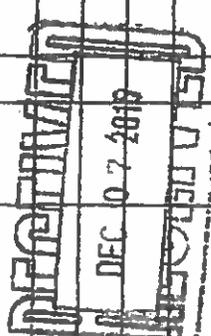
THANK YOU FOR SHOPPING LOWE'S.  
 SEE REVERSE SIDE FOR RETURN POLICY.  
 STORE MANAGER:

WE HAVE THE LOWEST PRICES, GUARANTEED!  
 IF YOU FIND A LOWER PRICE, WE WILL BEAT IT BY 10%.  
 SEE STORE FOR DETAILS.

GL Acct#: 6700-20 \$105.04 1220-20 \$90.98  
 Signature: *Gary D. Hutchcraft*  
 Date: 12/14/15

**ROEMER'S HEAVY EQUIPMENT & TRUCK REPAIR**  
 P.O. Box 191  
 Osage Beach, Missouri 65065  
 (573) 348-3733

19357

QTY	PART ID AND DESCRIPTION	PRICE
1	33518 Fuel Filter	19.38
1	3401 Coolant Filter	13.66
1	B7700 Oil Filter	12.39
		
<b>TOTAL PARTS</b>		<b>40.33</b>
<b>TOTAL ACCESSORIES</b>		
<b>TOTAL ACCESSORIES</b>		

NAME: ALLIANCE WATER RESOURCES CUSTOMER SERVICE NO. \_\_\_\_\_ DATE: NOV-23-15

ADDRESS: P.O. Box 191 ORDER WRITTEN BY \_\_\_\_\_ PROMISED \_\_\_\_\_

CITY, STATE, ZIP: OSAGE BEACH MO 65065 BUSINESS PHONE: NO 65049 EXT. \_\_\_\_\_

HOME PHONE: \_\_\_\_\_ LICENSE NUMBER: \_\_\_\_\_

YEAR, MAKE AND MODEL: 2014 WHITE GMC SERIAL NUMBER: S12833094 MOTOR NUMBER: \_\_\_\_\_ TERMS: \_\_\_\_\_

ODOMETER IN: \_\_\_\_\_ ODOMETER OUT: \_\_\_\_\_

LUBE  CHANGE OIL  OIL FILTER  TUNE-UP  TRANS.  DIFF.

CHANGE FINE OIL OIL FILTER

FUEL FILTER AND COOLANT FILTER

CHECK AIR FILTER

GL Acct#: 6702-2011LSS 1200-20 \$101.64

Signature: [Signature]

Date: 12/7/15

LITERS/GALS. OF GAS: 5.1 GALS 154.40

LBS. OF GREASE: 15.99 87.95

TOTAL LABOR: 75.00

TOTAL PARTS: 40.33

ACCESSORIES: \_\_\_\_\_

GAS, OIL & GREASE: 87.95

SUBLET REPAIR: \_\_\_\_\_

EMI/WASTE DISPOSAL: \_\_\_\_\_

TAX: 9.91

TOTAL: 213.19

THANK YOU!

I hereby authorize the above repair work to be done along with the necessary materials. You and your employees may operate above vehicle for purposes of testing, inspection, or delivery at my risk. An express mechanics lien acknowledged on above vehicle to secure the amount of repairs thereto. It is also understood that you will not be held responsible for loss or damage to cars or articles left in cars in case of fire, theft or any other cause beyond your control.

SAVE OLD PARTS?  YES  NO

SIGNATURE \_\_\_\_\_



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

Account Number	Account Name	12/30/2015				Percent YTD
		2013 Actual	2014 Actual	2015 Budget	2015 Actual as of 12/30/2015	
3020	Osage Beach	452,145.77	464,343.06	467,500.00	477,172.03	102%
3010	Lake Ozark	92,854.22	85,716.93	82,500.00	72,827.98	88%
3100	Interest	34.50	31.18	30.00	54.79	183%
3060	Waste Haulers' Fee	41,460.00	34,340.00	38,000.00	32,400.00	85%
<b>Total Operating Fund</b>		<b>586,494.49</b>	<b>584,431.17</b>	<b>588,030.00</b>	<b>582,454.80</b>	<b>99%</b>
<b>E/R Fund Income</b>		<b>1,320.11</b>	<b>1,025.06</b>	<b>1,200.00</b>	<b>884.81</b>	<b>74%</b>
<b>TOTAL INCOME</b>		<b>587,814.60</b>	<b>585,456.23</b>	<b>589,230.00</b>	<b>583,339.61</b>	<b>99%</b>



**MONTH-TO-DATE AND YEAR-TO-DATE  
EXPENDITURE/BUDGET ANALYSIS  
12/30/2015**

Account Number	Account Name	2013 Actual	2014 Actual	2015 Budget	2015 Actual as of 12/30/2015	2015 December Expenses	Percent YTD
4000	Equipment Replace Fund	41,606.04	41,606.04	41,606.04	41,606.04	3,467.17	100%
4010	ERF Repayment	27,961.44	0.00	0.00	0.00	0.00	
4020	*Maintenance & Repair	19,273.37	58,873.44	88,800.00	31,014.36	4,253.96	35%
4140	Insurance	15,489.00	16,502.00	17,000.00	16,306.00	0.00	96%
4150	***Vehicle Repair/Maint	1,352.11	9,186.16	3,000.00	1,508.78	0.00	50%
4160	Haulers Fees to Contractor	8,000.00	8,000.00	8,000.00	8,000.00	0.00	100%
4170	Contract Management	281,409.84	288,445.08	295,657.05	296,233.08	24,686.09	100%
4185	Electric	71,923.84	70,366.40	75,000.00	76,751.19	4,555.96	102%
4200	Audit	1,750.00	1,900.00	2,000.00	2,000.00	0.00	100%
4220	Professional Service	119,683.73	43,038.41	30,000.00	2,369.99	0.00	8%
4240	Capital Purchases	5,748.00	0.00	30,000.00	0.00	0.00	0%
	<b>Totals</b>	<b>594,197.37</b>	<b>537,917.53</b>	<b>591,063.09</b>	<b>475,789.44</b>	<b>36,963.18</b>	<b>80%</b>
	**E/R Expenses	4,260.00	9,429.93	17,000.00	1,869.72	0.00	11%
	<b>TOTAL EXPENSES</b>	<b>598,457.37</b>	<b>547,347.46</b>	<b>608,063.09</b>	<b>477,659.16</b>	<b>36,963.18</b>	<b>79%</b>
	<b>**Equipment &amp; Replacement</b>						
	Normal E/R	10,000.00					500.00
	Rebuild Arm Support Clarifier #1 & 2	5,000.00					1,000.00
	Replace doors	2,000.00					8,000.00
		<u>17,000.00</u>					8,000.00
	<b>***Vehicle Repair/Maint</b>						2,100.00
	Vehicle Maintenance	3,000.00					1,200.00
		<u>3,000.00</u>					10,000.00
							2,000.00
							1,000.00
							<u>55,000.00</u>
							<b>88,800.00</b>



**OPERATING FUND INCOME AND EXPENSE SUMMARY  
12/30/2015**

Beginning Balance	168,803.94
Income - Osage Beach	40,065.19
Income - Lake Ozark	5,768.15
Income - Other	0.00
Income - Waste Haulers' Fees	3,300.00
Interest - Checking	5.67
Income - CD Interest	0.00
Transfers From E/R Fund	0.00
Transfers to E/R fund	-3,467.17
Expenses	-35,274.50
Ending Fund Balance	<b>179,201.28</b>
NOW Account - Central Bank	179,201.28
Outstanding Checks:	0.00
Deposit in Transit:	0.00
	<b>179,201.28</b>

**EQUIPMENT REPLACEMENT FUND INCOME AND EXPENSE SUMMARY  
12/30/2015**

Beginning Balance	446,947.04
Interest - Checking	62.74
Income - CD Interest	0.00
Transfers From E/R Fund	0.00
Transfers to E/R Fund	3,467.17
Income - Miscellaneous	0.00
Expenses	0.00
Ending Fund Balance	<b>450,476.95</b>
NOW Account - First Bank	149,716.85
CD Providence Bank, 10/16 #1268880	200,047.87
CD First Bank of the Lake, 01/16 #101318429	100,712.23
Deposit in Transit	0.00
Outstanding Checks:	0.00
	<b>450,476.95</b>



**Central Bank**  
of Lake of the Ozarks  
P.O. Box 4500, Jefferson City, MO 65102  
(573) 348-2761 001162

AS OF DECEMBER 1, 2015, THE FREE SMALL BUSINESS CHECKING ALLOWS FOR 200 PAPER AND ELECTRONIC ITEMS FOR FREE. A CHARGE OF \$0.35 FOR ITEMS OVER 200 APPLIES. PAPER STATEMENT FEE IS \$3.00.



Return Service Requested



Period 11/01/2015-11/30/2015 Page 1 of 2

LAKE OZARK OSAGE BEACH JOINT SEWER  
TREATMENT PLANT BOARD  
1000 CITY PKWY  
OSAGE BEACH MO 65065-3058

Web Address www.cbolobank.com

M M 6

**Your Financial Summary on November 30, 2015**

**Account Balances & Other Assets**

Checking \$ 168,803.94  
Total \$ 168,803.94

**Detailed Explanation of Account Balances and Other Assets**

**Basic Plus Interest Checking**

No. 1	Beginning Balance October 30, 2015	\$	168,815.89
<b>Deposits</b>			
	Nov. 16 Deposit		6,025.92
	Nov. 16 Deposit		39,807.41
	Nov. 18 Deposit		700.00
	Nov. 30 Interest Eamed		5.77
	<b>Total</b>	+\$	46,539.10
<b>Checks</b>			
<u>Check No.</u>	<u>Date Paid</u>	<u>Amount</u>	<u>Check No.</u> <u>Date Paid</u> <u>Amount</u>
3479	Nov. 12	347.40	3483 Nov. 20 24,686.09
3481	Nov. 23	4,620.28	3484 Nov. 20 683.11
3482	Nov. 19	3,467.17	3485 Nov. 24 10,747.00
	<b>Total</b>		-\$ 44,551.05
	<b>Ending Balance November 30, 2015</b>	\$	168,803.94

Number of days since last statement/interest cycle 30  
Beginning and ending dates for calculation of statement/interest cycle are 11/01/2015 through 11/30/2015  
Average collected balance 175,363.00  
Interest rate 0.04%  
Annual percentage yield earned 0.04%



Operating Fund

CHECK REGISTER - JOINT SEWER BOARD OPERATION FUND

					145,118.13
	reconciled balance 8/31/15				
3469	Equipment Replacement Fund	X	3,467.17		141,650.96
3470	Alliance Water Resources, Inc.	X	24,686.09		116,964.87
3471	Alliance Water Resources, Inc.	X	323.35		116,641.52
3473	Lake Sun Leader	X	236.25		116,405.27
3474	Ameren MO	X	10,806.53		105,598.74
	Deposit	X		100.00	105,698.74
	Deposit LO	X	-	6,442.00	112,140.74
	Deposit OB	X		39,391.33	151,532.07
	Deposit	X		3,100.00	154,632.07
	Interest	X		5.10	154,637.17
	reconciled balance 9/30/15				154,637.17
3472	Zerger & Mauer LLP	X	591.50		154,045.67
3475	Ameren MO	X	5,584.64		148,461.03
3476	Equipment Replacement Fund	X	3,467.17		144,993.86
3477	Alliance Water Resources, Inc.	X	24,686.09		120,307.77
3478	Alliance Water Resources, Inc.	X	360.70		119,947.07
3480	Road Runners LLC	X	1,170.00		118,777.07
	Deposit LO	X	-	5,689.76	124,466.83
	Deposit OB	X		40,143.58	164,610.41
	Deposit	X		2,200.00	166,810.41
	Interest	X		5.48	166,815.89
	reconciled balance 10/31/15				166,815.89
3479	Mission Communications LLC	X	347.40		166,468.49
3481	Ameren MO	X	4,620.28		161,848.21
3482	Equipment Replacement Fund	X	3,467.17		158,381.04
3483	Alliance Water Resources, Inc.	X	24,686.09		133,694.95
3484	Alliance Water Resources, Inc.	X	683.11		133,011.84
3485	CCIMW	X	10,747.00		122,264.84
	Deposit LO	X	-	6,025.92	128,290.76
	Deposit OB	X		39,807.41	168,098.17
	Deposit	X		700.00	168,798.17
	Interest	X		5.77	168,803.94
	reconciled balance 11/30/15				168,803.94
3486	Zerger & Mauer LLP	X	1,778.49		167,025.45
3487	Ameren MO	X	4,555.96		162,469.49
3488	Equipment Replacement Fund	X	3,467.17		159,002.32
3489	Alliance Water Resources, Inc.	X	24,686.09		134,316.23
3490	Evans Enterprises, Inc	X	2,532.01		131,784.22
3491	Alliance Water Resources, Inc.	X	1,721.95		130,062.27
	Deposit LO	X	-	5,768.15	135,830.42
	Deposit OB	X		40,065.19	175,895.61
	Deposit	X		1,200.00	177,095.61
	Deposit	X		2,100.00	179,195.61
	Interest	X		5.67	179,201.28
	reconciled balance 12/31/15				179,201.28



4558 Osage Beach Pkwy, Suite 100  
 Osage Beach, MO 65065  
 (573) 348-2265

536 00010 26  
 ACCOUNT:  
 DOCUMENTS:

PAGE: 1  
 11/30/2015  
 1

68

LAKE OZARK-OSAGE BEACH JOINT SEWER TREAT  
 SEWER BD.-TREATMENT PLANT BD.  
 1000 CITY PKWY  
 OSAGE BEACH MO 65065-3058

ARE YOU USING ON-LINE BANKING?  
 IT'S EASY TO USE, SAFE AND AVAILABLE 24/7.  
 STOP IN THE BANK AND SIGN UP TODAY.  
 TAKE ADVANTAGE OF ON-LINE BANKING, BILL PAY AND E-STATEMENTS

BUSINESS MDA ACCOUNT

LAST STATEMENT 10/30/15 142,658.67  
 2 CREDITS 3,528.27  
 DEBITS .00  
 THIS STATEMENT 11/30/15 146,186.94

----- DEPOSITS -----  
 REF #.....DATE.....AMOUNT REF #.....DATE.....AMOUNT REF #.....DATE.....AMOUNT  
 11/18 3,467.17

----- OTHER CREDITS -----  
 DESCRIPTION DATE AMOUNT  
 INTEREST 11/30 61.10

----- I N T E R E S T -----

AVERAGE LEDGER BALANCE: 144,112.64 INTEREST EARNED: 61.10  
 AVERAGE AVAILABLE BALANCE: 143,888.95 DAYS IN PERIOD: 31  
 INTEREST PAID THIS PERIOD: 61.10 ANNUAL PERCENTAGE YIELD EARNED: .50%  
 INTEREST PAID 2015: 550.89

\*\*\* CONTINUED \*\*\*





4558 Osage Beach Pkwy, Suite 100  
 Osage Beach, MO 65065  
 (573) 348-2265

536 00010 26  
 ACCOUNT:  
 DOCUMENTS:

PAGE: 1  
 12/31/2015

1

66

LAKE OZARK-OSAGE BEACH JOINT SEWER TREAT  
 SEWER ED.-TREATMENT PLANT ED.  
 1000 CITY PKWY  
 OSAGE BEACH MO 65065-3058

The following service charge increases will be effective February 1, 2016  
 Money Market monthly fee & excessive withdrawal fee increases to \$10 ea.,  
 Savings monthly fee increases to \$2ea and excessive withdrawals to \$1 ea.  
 and Foreign ATM fee increases to \$2.

BUSINESS MMDA ACCOUNT

LAST STATEMENT 11/30/15 146,186.94  
 2 CREDITS 3,529.91  
 DEBITS .00  
 THIS STATEMENT 12/31/15 149,716.85

REF #.....DATE.....AMOUNT REF #.....DATE.....AMOUNT REF #.....DATE.....AMOUNT  
 12/16 3,467.17

DESCRIPTION OTHER CREDITS DATE AMOUNT  
 INTEREST 12/31 62.74

AVERAGE LEDGER BALANCE: 147,976.44 INTEREST EARNED: 62.74  
 AVERAGE AVAILABLE BALANCE: 147,752.75 DAYS IN PERIOD: 31  
 INTEREST PAID THIS PERIOD: 62.74 ANNUAL PERCENTAGE YIELD EARNED: .50%  
 INTEREST PAID 2015: 613.63

\*\*\* CONTINUED \*\*\*



JSB - CHECK REGISTERS 2016

**CHECK REGISTER - JOINT SEWER BOARD EQUIPMENT REPLACEMENT FUND**

				<b>116,977.98</b>
				<b>reconciled balance 12/31/14</b>
				<b>Deposit</b>
	X		101,711.25	218,689.23
				<b>Deposit</b>
	X		3,467.17	222,156.40
				<b>CD</b>
	X	100,000.00		122,156.40
				<b>Interest</b>
	X		19.88	122,176.28
				<b>reconciled balance 1/31/15</b>
				<b>122,176.28</b>
				<b>Deposit</b>
	X		3,467.17	125,643.45
				<b>Interest</b>
	X		18.78	125,662.23
				<b>reconciled balance 2/28/15</b>
				<b>125,662.23</b>
				<b>Deposit</b>
	X		3,467.17	129,129.40
				<b>Interest</b>
	X		53.45	129,182.85
				<b>reconciled balance 3/31/15</b>
				<b>129,182.85</b>
				<b>Deposit</b>
	X		3,467.17	132,650.02
				<b>Interest</b>
	X		53.23	132,703.25
				<b>reconciled balance 4/30/15</b>
				<b>132,703.25</b>
				<b>Deposit</b>
	X		3,467.17	136,170.42
				<b>Interest</b>
	X		52.91	136,223.33
				<b>reconciled balance 5/31/15</b>
				<b>136,223.33</b>
				<b>Deposit</b>
	X		3,467.17	139,690.50
				<b>Interest</b>
	X		60.28	139,750.78
				<b>reconciled balance 6/30/15</b>
				<b>139,750.78</b>
				<b>Interest</b>
	X		59.19	139,809.97
1009				<b>Check</b>
	X	221.10		139,588.87
1010				<b>Check</b>
	X	9,322.33		130,266.54
				<b>Deposit</b>
	X		3,467.17	133,733.71
				<b>reconciled balance 7/31/15</b>
				<b>133,733.71</b>
				<b>Interest</b>
	X		57.16	133,790.87
1011				<b>Check</b>
	X	2,850.00		130,940.87
				<b>Deposit</b>
	X		2,850.00	133,790.87
				<b>Deposit</b>
	X		3,467.17	137,258.04
				<b>reconciled balance 8/31/15</b>
				<b>137,258.04</b>
				<b>Interest</b>
	X		57.02	137,315.06
				<b>Deposit</b>
	X		3,467.17	140,782.23
				<b>reconciled balance 9/30/15</b>
				<b>140,782.23</b>
				<b>Interest</b>
	X		57.89	140,840.12
1012				<b>Check</b>
	X	1,648.62		139,191.50
				<b>Deposit</b>
	X		3,467.17	142,658.67
				<b>reconciled balance 10/31/15</b>
				<b>142,658.67</b>
				<b>Interest</b>
	X		61.10	142,719.77
				<b>Deposit</b>
	X		3,467.17	146,186.94
				<b>reconciled balance 11/30/15</b>
				<b>146,186.94</b>
				<b>Interest</b>
	X		62.74	146,249.68
				<b>Deposit</b>
	X		3,467.17	149,716.85
				<b>reconciled balance 12/31/15</b>
				<b>149,716.85</b>

**WATER RESOURCES®**  
**Alliance**  
Professional Water and Wastewater Operations

**OPERATING  
DIVISIONS**

**MISSOURI**

**Atchison County**

**Bonne Terre**

**Boonville**

**Bowling Green**

**Buchanan County #1**

**Cameron**

**Cape Girardeau**

**Carroll County #1**

**Craig**

**East Central Missouri**

**Water & Sewer  
Authority**

**Elsberry**

**Fayette**

**Franklin County #1**

**Franklin County #3**

**Henry County  
Water Company**

**Henry County #3**

**Lake Ozark/  
Osage Beach**

**Lincoln County #1**

**Neosho**

**Nevada**

**Parkville**

**Phelps County #2**

**Platte County #C-1**

**Proctor & Gamble**

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**St Charles County #2**

**St Genevieve**

**Versailles**

**IOWA**

**Maquoketa**

**Tipton**

**TENNESSEE**

**South Fulton**

**REPORT OF OPERATIONS**

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

**Month of November 2015**

Submitted by Alliance Water Resources, Inc. for the

January 2016

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-01013241. 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	1.7	1.8	NA	0		0.25	<5.0	NA
Peak Day	2.3	2.4	8.0	0		0.70	<5.0	NA
Percent Removal	99.1	99.2	NA	NA		NA	NA	NA

## 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		2.7	10	4.0
Weekly Average	45	45		630				
Daily Max						10.6	15	8.1

## PLANT HYDRAULIC AND ORGANIC LOADING

The average daily influent flow for the month was 1.443 MGD or 48% of Permitted flow with Lake Ozark contributing 14% of the total flow and Osage Beach contributing 86%. 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 65715 pounds of BOD.

## BIOSOLIDS APPLICATION AND INVENTORY

Plant personnel land applied 30 tanker loads of bio-solids during the month equivalent to a total of 111,000 gallons and 35,734 pounds dry weight solids.

476,046 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 256,250 gallons with a level of 3.0 feet in Tank 1 and 2.0 feet in Tank 2.

## **WASTEHAULERS**

The plant received 19 loads of septage during the month totaling 47,500 gallons.

## **WWTP OPERATIONS**

- Decanting digesters and wasting weekly.
- Normal operations.
- We shut down the UV system on the 1<sup>st</sup> of November.

## **WWTP MAINTENANCE AND REPAIR**

- Performed routine maintenance throughout the month as per Antero Maintenance Data Management schedule. (New version of Operator 10 Software)
- We took the sludge truck up to Roemer's Truck Repair on the 13<sup>th</sup> to have a couple oil leaks checked out and we had him go ahead and service it while he had it.
- We pulled and cleaned all the UV banks/bulbs and stored them for the off season in the UV control room on the 18<sup>th</sup> of November.

## **SAFETY**

- We conducted our monthly routine Safety Meeting on Chlorine Safety on the 11<sup>th</sup> of November.

## **REGULATORY AGENCY, INSPECTION AND REPORTS**

- We filled out the EDMR on MDNR website on the 2<sup>nd</sup> of December.

## **MISCELLANEOUS AND RECOMMENDATIONS**

- We would like to Thank Matt and the City of Lake Ozark for sending out their service truck and crew to assist us with the removal and resetting of the newly rebuilt pista grit pump. Many Thanks!

**TABLE A**  
**LAKE OZARK/OSAGE BEACH WWTP**

MONTH OF November 2015

DATE	RAIN FALL IN.	FLOW					BOD 5 MG/L			TSS MG/L		
		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	0.162	0.988	1.150	14.1	85.9						
2-Nov	0	0.155	1.029	1.184	13.1	86.9						
3-Nov	0	0.153	0.972	1.125	13.6	86.4						
4-Nov	0	0.145	1.007	1.152	12.6	87.4						
5-Nov	0	0.146	1.002	1.148	12.7	87.3						
6-Nov	1.1	0.177	1.288	1.465	12.1	87.9	138	213	210	120	204	324
7-Nov	0	0.154	1.118	1.272	12.1	87.9						
8-Nov	0	0.137	1.205	1.342	10.2	89.8						
9-Nov	0	0.193	0.979	1.172	16.5	83.5						
10-Nov	0	0.143	0.991	1.134	12.6	87.4						
11-Nov	0	0.124	0.938	1.062	11.7	88.3						
12-Nov	0	0.129	0.904	1.033	12.5	87.5						
13-Nov	0	0.137	0.964	1.101	12.4	87.6	228	208	200	184	134	174
14-Nov	0	0.138	0.970	1.108	12.5	87.5						
15-Nov	0	0.137	0.969	1.106	12.4	87.6						
16-Nov	0.6	0.137	0.992	1.129	12.1	87.9						
17-Nov	2.1	0.322	2.039	2.361	13.6	86.4						
18-Nov	3.7	1.064	4.154	5.218	20.4	79.6						
19-Nov	0	0.203	1.151	1.354	15.0	85.0						
20-Nov	0	0.150	0.919	1.069	14.0	86.0	78	185	130	60	198	162
21-Nov	0.5	0.151	1.010	1.161	13.0	87.0						
22-Nov	0	0.159	1.035	1.194	13.3	86.7						
23-Nov	0	0.138	0.907	1.045	13.2	86.8						
24-Nov	0	0.131	0.877	1.008	13.0	87.0						
25-Nov	0	0.125	0.881	1.006	12.4	87.6	150	168	188	98	264	188
26-Nov	0	0.130	0.970	1.100	11.8	88.2						
27-Nov	1.75	0.305	1.766	2.071	14.7	85.3						
28-Nov	0.6	0.586	2.647	3.233	18.1	81.9						
29-Nov	0	0.227	1.270	1.497	15.2	84.8						
30-Nov	0.4	0.189	1.105	1.294	14.6	85.4						
SUM	10.8	6.247	37.047	43.294								
AVG		0.208	1.235	1.443	14	86	149	194	182	116	200	212
<b>NOTE: BOLD PRINT INDICATES WEEKEND DAYS</b>												

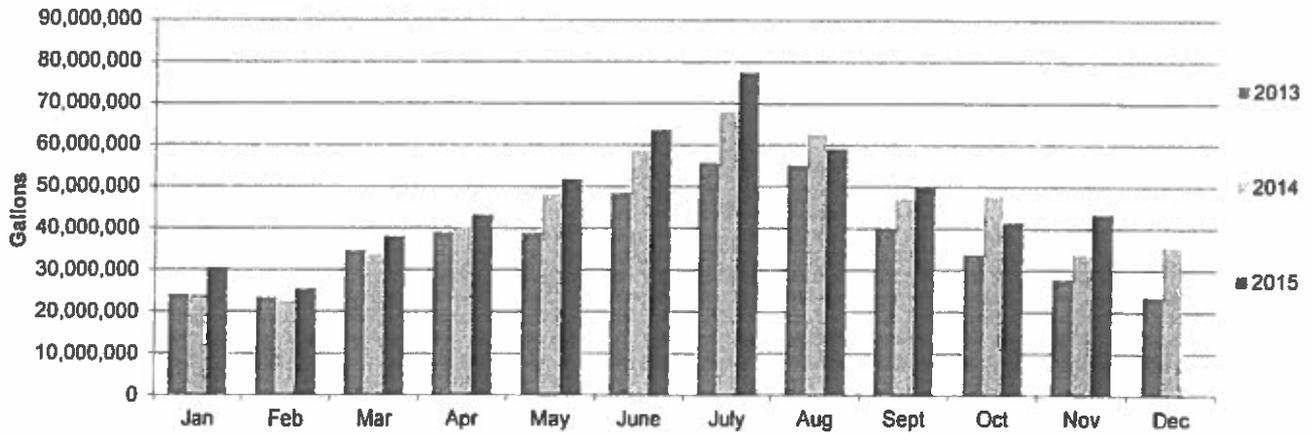
TABLE B  
JOINT SEWER BOARD  
Monthly Flows

<u>2013</u>	<u>RAINFALL</u>	<u>OSAGE BEACH</u>		<u>LAKE OZARK</u>		<u>TOTAL</u>	<u>%</u>
January	2.8	19,923,000	83%	4,104,000	17%	24,027,000	100%
February	4.2	19,290,000	83%	3,979,000	17%	23,269,000	100%
March	5.3	28,232,000	82%	6,308,000	18%	34,540,000	100%
April	8.7	31,410,000	81%	7,507,000	19%	38,917,000	100%
May	2.9	32,247,000	83%	6,560,000	17%	38,807,000	100%
June	4.6	40,205,000	83%	8,185,000	17%	48,390,000	100%
July	2.2	46,803,000	84%	8,794,000	16%	55,597,000	100%
August	15.0	45,742,000	83%	9,351,000	17%	55,093,000	100%
September	2.3	33,128,000	83%	6,869,000	17%	39,997,000	100%
October	3.6	27,722,000	82%	5,996,000	18%	33,718,000	100%
November	2.5	22,915,000	83%	4,775,000	17%	27,690,000	100%
December	2.5	19,507,000	83%	4,038,000	17%	23,545,000	100%
<b>56.6</b>		<b>367,124,000</b>	<b>83%</b>	<b>76,466,000</b>	<b>17%</b>	<b>443,590,000</b>	<b>100%</b>

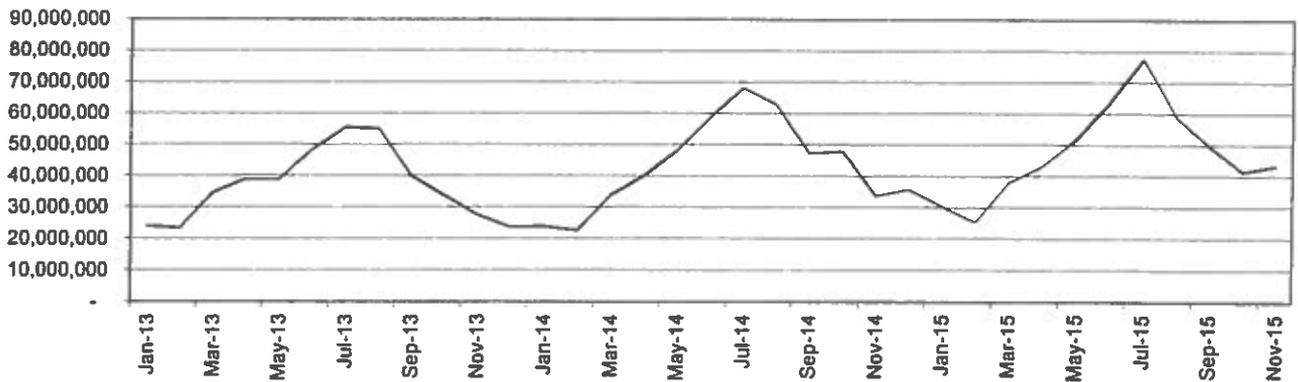
<u>2014</u>	<u>RAINFALL</u>	<u>OSAGE BEACH</u>		<u>LAKE OZARK</u>		<u>TOTAL</u>	<u>%</u>
January	3.0	19,229,000	81%	4,634,000	19%	23,863,000	100%
February	1.3	18,444,000	82%	4,114,000	18%	22,558,000	100%
March	1.2	28,731,000	85%	5,061,000	15%	33,792,000	100%
April	5.1	33,479,000	84%	6,515,000	16%	39,994,000	100%
May	4.7	41,054,000	85%	7,129,000	15%	48,183,000	100%
June	5.1	50,416,000	86%	8,342,000	14%	58,758,000	100%
July	3.1	59,089,000	87%	9,059,000	13%	68,148,000	100%
August	2.9	54,624,000	87%	8,228,000	13%	62,852,000	100%
September	3.4	40,316,000	86%	6,735,000	14%	47,051,000	100%
October	7.9	41,322,000	86%	6,659,000	14%	47,981,000	100%
November	1.6	29,315,000	87%	4,506,000	13%	33,821,000	100%
December	2.6	31,534,000	88%	4,204,000	12%	35,738,000	100%
<b>41.7</b>		<b>447,553,000</b>	<b>85%</b>	<b>75,186,000</b>	<b>15%</b>	<b>522,739,000</b>	<b>100%</b>

<u>2015</u>	<u>RAINFALL</u>	<u>OSAGE BEACH</u>		<u>LAKE OZARK</u>		<u>TOTAL</u>	<u>%</u>
January	0.9	26,319,000	87%	4,085,000	13%	30,404,000	100%
February	1.4	21,892,000	86%	3,465,000	14%	25,357,000	100%
March	4.5	32,996,000	87%	4,920,000	13%	37,916,000	100%
April	4.0	37,220,000	86%	5,945,000	14%	43,165,000	100%
May	7.2	44,456,000	86%	7,209,000	14%	51,665,000	100%
June	7.1	54,745,000	86%	8,769,000	14%	63,514,000	100%
July	9.7	66,474,000	86%	10,871,000	14%	77,345,000	100%
August	3.5	51,695,000	88%	7,327,000	12%	59,022,000	100%
September	3.1	43,144,000	87%	6,531,000	13%	49,675,000	100%
October	1.8	36,230,000	87%	5,216,000	13%	41,446,000	100%
November	10.8	37,047,000	86%	6,247,000	14%	43,294,000	100%
December							
<b>54.0</b>		<b>452,218,000</b>	<b>87%</b>	<b>70,585,000</b>	<b>13%</b>	<b>522,803,000</b>	<b>100%</b>

Monthly Influent Flow  
Figure 3A



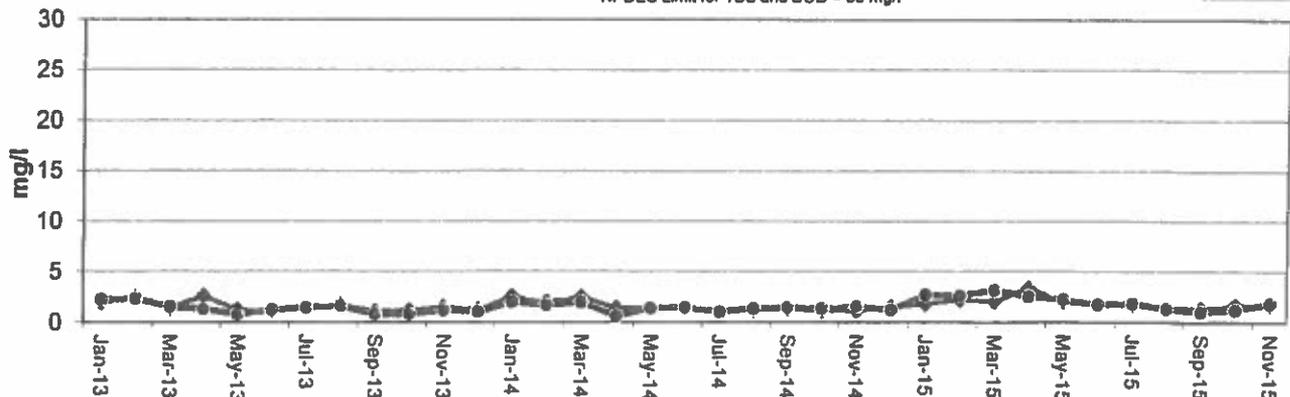
Monthly Influent Flow  
Figure 3B



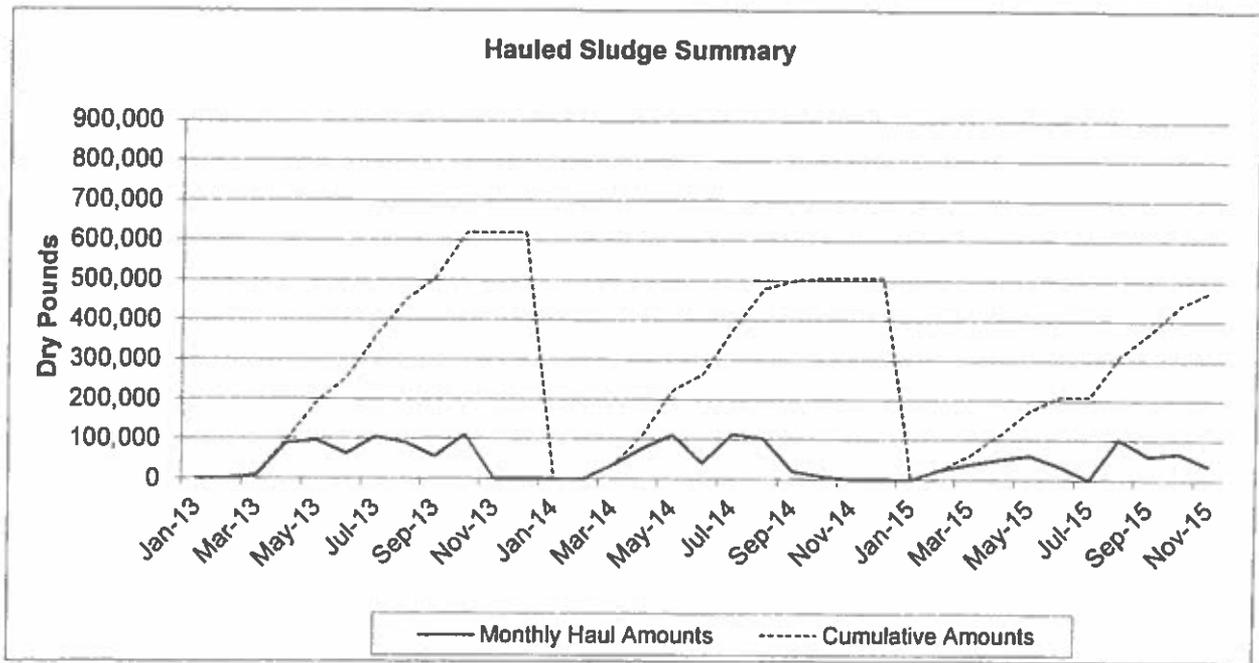
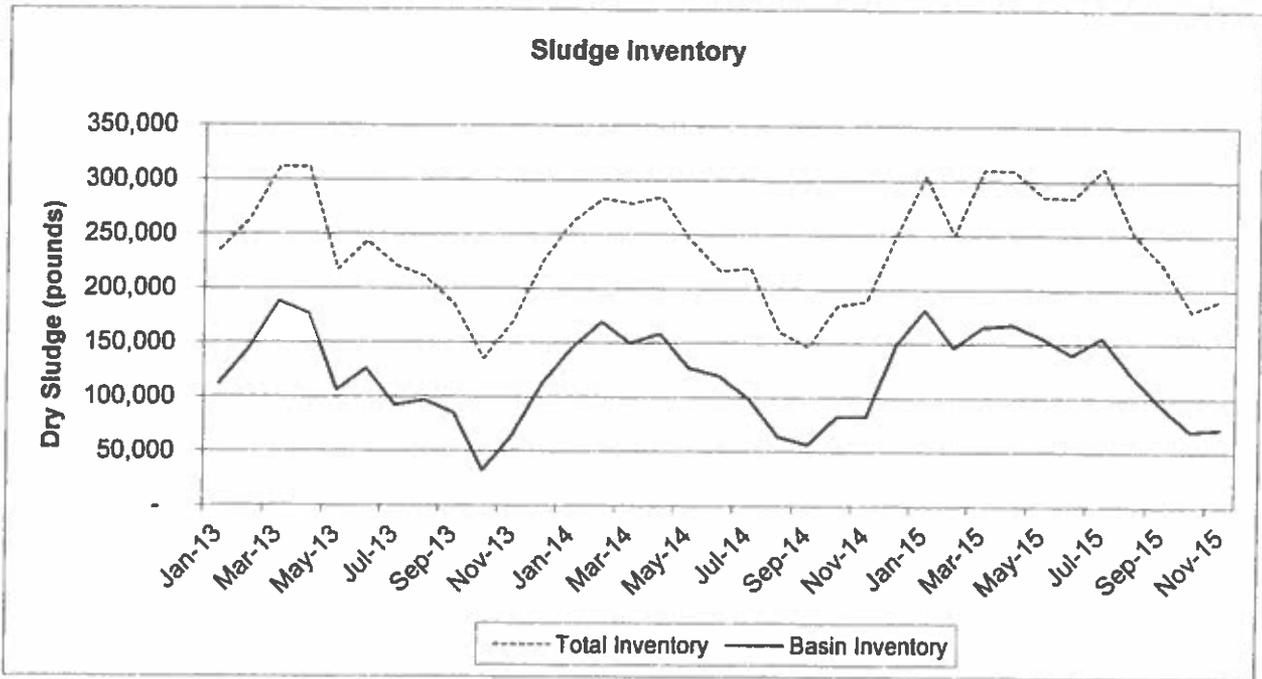
Effluent BOD/TSS  
Figure 4

NPDES Limit for TSS and BOD = 30 mg/l

◆ BOD  
● TSS



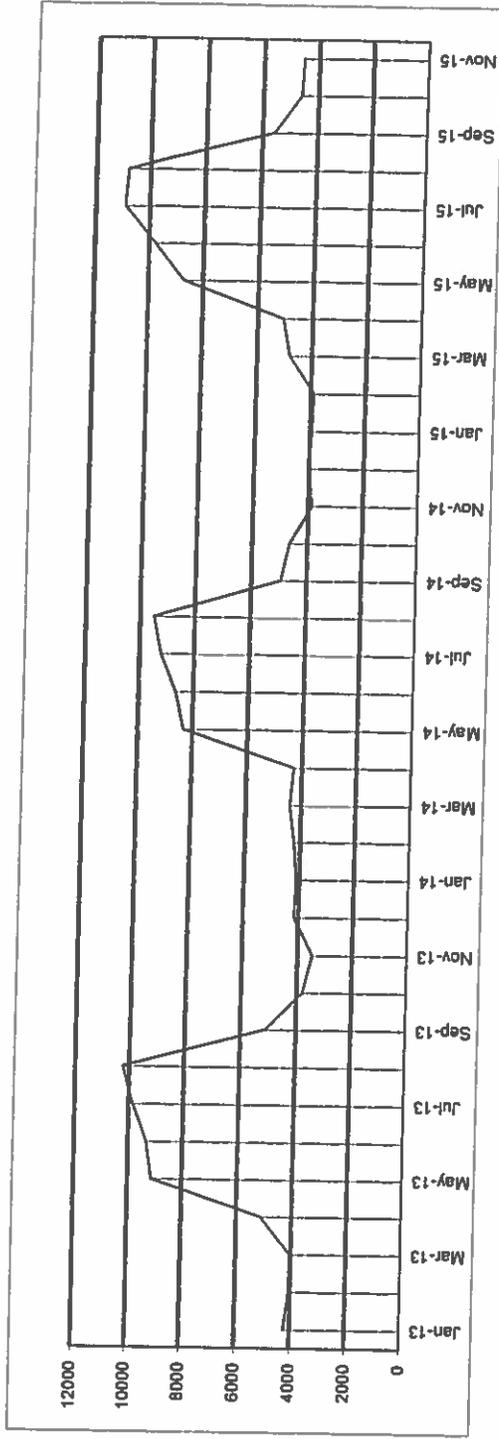
Date	Loads	Hauled Sludge			Annual Cumulative # Dry	Basin Depth			Blanket Depths			Blanket and MLSS Inventory			MLSS % Solids	Total Dry Sludge Inventory	Accepted Septage Loads	Accepted Septage Gallons			
		Gallons	# Dry	% Solids		Trank #1	Trank #2	AB #1	Basin Gallons	# Dry	Clar #1	Clar #2	Clar #3	MLSS AB #1					MLSS AB #2	MLSS AB #3	Gallons
Jan-13	0	-	0	3.5%	-	6.0	2.5	0.0	382,500	111,632	1.5	2.0	0.0	4,120	4,010	3,662,167	124,155	0.00407	235,807	26	65,000
Feb-13	0	-	0	3.5%	-	6.0	5.0	0.0	485,000	144,481	1.0	2.0	0.0	4,000	3,740	3,696,714	119,314	0.00387	263,805	56	110,000
Mar-13	8	29,600	8,517	3.5%	8,517	8.0	8.5	0.0	652,500	187,748	2.0	2.0	1.0	4,030	4,050	3,714,476	123,915	0.004	311,663	21	52,500
Apr-13	74	273,800	89,488	3.9%	98,005	6.0	6.0	0.0	540,000	176,492	2.5	2.0	2.0	4,620	4,130	3,766,785	135,084	0.0043	311,578	24	60,000
May-13	82	303,400	95,228	3.8%	163,233	3.5	4.0	0.0	337,500	105,931	3.0	5.0	2.0	3,970	3,040	3,828,952	111,767	0.0035	217,898	36	85,500
Jun-13	54	198,800	62,210	3.7%	255,443	6.0	3.0	0.0	405,000	126,101	1.5	7.0	2.0	3,850	3,540	3,828,952	117,954	0.0037	244,095	47	117,500
Jul-13	97	398,900	105,164	3.5%	360,607	8.0	1.0	0.0	315,000	92,301	1.5	2.0	1.0	3,950	4,410	3,705,585	129,181	0.00418	281,482	58	137,500
Aug-13	74	273,800	90,969	4.0%	451,576	6.5	0.0	0.0	292,500	97,162	2.0	2.5	2.0	3,580	3,680	3,766,785	114,036	0.00383	211,218	57	142,500
Sep-13	48	177,600	56,069	3.9%	507,645	5.0	1.0	0.0	270,000	85,240	2.0	2.0	2.0	2,950	3,360	3,721,309	100,252	0.00323	185,492	39	97,500
Oct-13	83	307,100	110,472	4.3%	618,117	2.0	0.0	0.0	90,000	32,375	1.0	2.0	2.0	2,820	3,220	3,651,904	103,895	0.00332	138,271	32	60,000
Nov-13	0	-	0	4.3%	618,117	4.0	0.0	0.0	180,000	64,552	0.0	0.0	0.0	3,600	3,880	3,652,308	108,259	0.00348	170,811	15	37,500
Dec-13	0	-	0	4.3%	618,117	5.0	2.0	0.0	315,000	112,985	0.0	0.5	1.0	3,600	3,960	3,679,929	113,921	0.00374	228,887	19	47,500
Jan-14	0	-	0	4.3%	-	4.0	5.0	0.0	405,000	145,241	2.0	2.5	0.0	3,410	3,610	3,671,048	113,884	0.00372	262,633	22	54,500
Feb-14	0	-	0	4.3%	-	5.0	5.0	0.0	472,500	169,448	1.5	2.5	0.0	3,410	4,030	3,671,048	113,884	0.00372	283,341	6	15,000
Mar-14	29	107,300	35,703	4.0%	35,703	5.0	5.0	0.0	450,000	149,733	0.5	0.5	0.5	4,270	4,230	3,639,476	128,001	0.00425	278,734	35	90,500
Apr-14	66	240,500	77,176	3.8%	112,879	7.5	3.5	0.0	485,000	158,845	1.5	1.0	1.5	4,420	3,710	3,709,547	125,761	0.00407	284,606	24	75,000
May-14	96	355,200	111,613	3.8%	224,492	5.5	3.5	0.0	405,000	127,261	1.0	2.0	2.0	3,550	4,040	3,740,142	118,377	0.00368	245,638	26	61,000
Jun-14	41	151,700	40,455	3.2%	264,947	4.5	5.5	0.0	450,000	120,005	3.0	2.0	2.0	3,530	2,630	3,775,666	96,966	0.00308	218,991	44	111,500
Jul-14	117	432,900	112,292	3.1%	377,239	6.5	2.0	0.0	382,500	99,219	5.0	1.5	1.5	4,030	3,610	3,678,952	120,445	0.00382	219,664	55	129,000
Aug-14	107	395,900	102,973	3.1%	480,212	5.5	0.0	0.0	247,500	64,374	1.0	1.0	1.0	2,670	3,210	3,670,071	99,989	0.00294	148,992	37	92,500
Sep-14	17	62,900	19,811	3.9%	500,023	2.5	1.5	0.0	180,000	56,693	0.0	1.5	1.0	2,980	3,620	3,713,499	102,358	0.00331	184,927	33	78,500
Oct-14	5	18,500	6,789	4.4%	506,812	4.0	1.0	0.0	225,000	82,569	0.0	2.0	2.0	3,630	3,330	3,678,952	106,775	0.00348	189,341	20	50,000
Nov-14	0	-	0	4.4%	506,812	5.0	4.0	0.0	405,000	148,619	0.0	2.0	2.0	3,480	3,060	3,722,380	101,516	0.00327	250,135	18	40,000
Dec-14	0	-	0	4.4%	-	5.5	5.5	0.0	495,000	161,645	2.0	2.0	2.0	3,900	4,160	3,671,046	123,385	0.00403	305,030	22	55,000
Jan-15	0	-	0	4.4%	-	6.0	4.0	0.0	450,000	146,366	1.0	1.0	0.0	3,580	3,280	3,635,524	104,150	0.00344	250,516	21	52,500
Feb-15	20	74,000	24,069	3.9%	24,069	5.5	6.5	0.0	540,000	165,704	1.0	2.0	2.0	5,040	4,250	3,740,142	144,890	0.00465	310,595	11	27,500
Mar-15	34	125,600	38,603	3.7%	62,672	6.0	6.0	0.0	540,000	167,861	2.5	2.0	2.0	5,160	4,000	3,835,879	142,532	0.00459	310,393	23	57,500
Apr-15	44	162,900	50,607	3.7%	113,279	6.0	6.0	0.0	540,000	167,861	1.5	2.0	4.0	4,030	4,110	3,835,879	130,204	0.00459	296,048	26	65,000
May-15	55	203,500	61,284	3.6%	174,563	5.5	8.0	0.0	517,500	155,845	2.0	1.0	3.0	4,630	4,550	3,763,570	144,837	0.00457	284,798	37	92,500
Jun-15	35	129,500	35,024	3.2%	209,587	6.0	3.5	0.0	517,500	139,981	2.0	1.0	1.0	5,470	4,660	3,696,714	156,157	0.00507	312,282	42	104,000
Jul-15	0	-	0	3.2%	209,587	6.5	6.5	0.0	585,000	156,125	1.0	2.0	1.0	4,170	4,400	3,648,357	130,533	0.00429	252,693	32	80,000
Aug-15	107	395,900	102,356	3.1%	311,943	6.5	4.0	0.0	472,500	122,160	0.5	1.0	0.5	4,480	3,570	3,678,952	130,400	0.00425	223,925	22	55,000
Sep-15	55	203,500	60,420	3.6%	372,363	5.5	1.5	0.0	315,000	93,525	1.0	1.0	1.0	3,310	3,920	3,678,952	110,917	0.00362	180,952	19	47,500
Oct-15	59	216,300	67,849	3.7%	440,312	4.0	1.0	0.0	225,000	70,034	1.0	1.0	1.0	3,440	4,430	3,714,478	118,603	0.00384	191,237		
Nov-15	30	111,900	35,734	3.9%	476,046	3.0	2.0	0.0	225,000	72,434	1.0	3.0	1.0	3,440	4,430	3,714,478	118,603	0.00384	191,237		



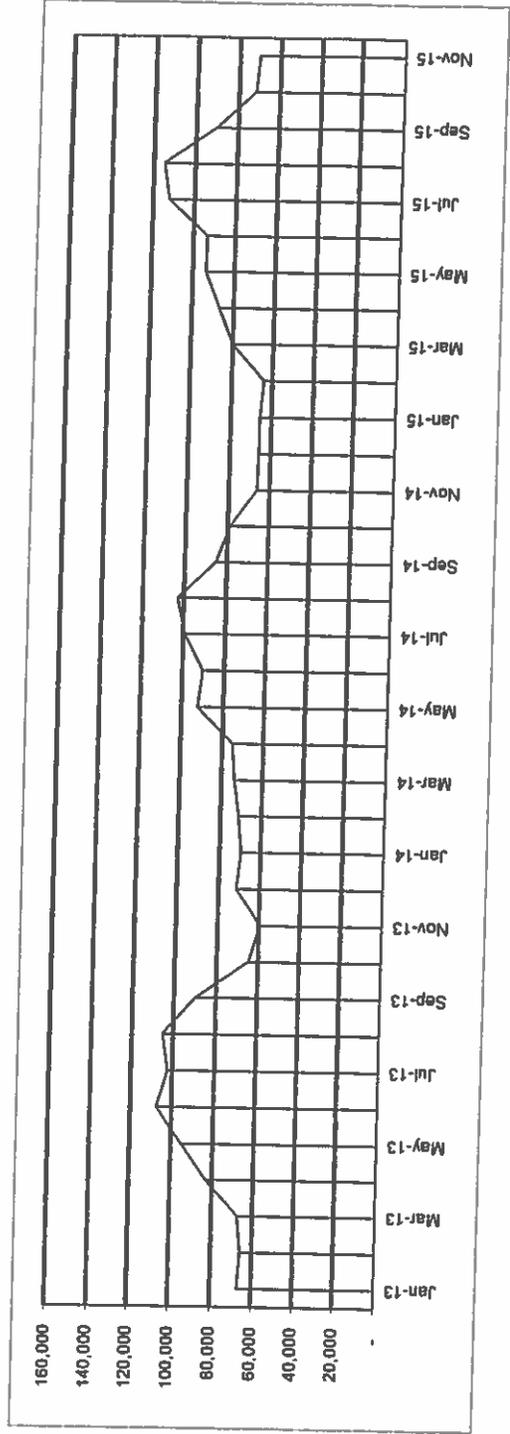
Electric Cost      Kilowatts Used

Month	Electric Cost	Kilowatts Used
Jan-13	4240	66,990
Feb-13	4069	65,810
Mar-13	4056	67,500
Apr-13	5132	83,390
May-13	9135	95,360
Jun-13	9331	107,780
Jul-13	9861	102,490
Aug-13	10255	105,350
Sep-13	5108	89,830
Oct-13	3806	64,870
Nov-13	3459	59,610
Dec-13	4171	71,660
Jan-14	4116	69,690
Feb-14	4226	71,330
Mar-14	4427	73,840
Apr-14	4297	75,240
May-14	8325	92,580
Jun-14	8643	90,400
Jul-14	9200	99,540
Aug-14	9483	103,070
Sep-14	4953	85,380
Oct-14	4663	78,920
Nov-14	3864	66,400
Dec-14	4009	66,040
Jan-15	3947	65,860
Feb-15	3901	64,300
Mar-15	4821	80,190
Apr-15	5084	87,050
May-15	8707	93,810
Jun-15	9772	93,490
Jul-15	10912	112,040
Aug-15	10807	114,770
Sep-15	5585	90,520
Oct-15	4620	71,940
Nov-15	4556	70,170

**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-15		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	7.5			17.6	1.558	7.9				6.9		15.5		
2	7.5			16.7	1.523	7.9				7.1		16.3		
3	7.4			19.0	1.430	7.9				6.8		16.3		
4	7.3			19.0	1.394	7.9				6.2		16.9		
5	7.3			19.4	1.462	7.9			0.18	6.1		17.2		
6	7.5	210	324	18.4	1.824	7.8	1.7	2.4		5.7		17.2	99.2	99.3
7	7.4			17.7	1.562	7.9				6.4		16.0		
8	7.4			19.0	1.736	7.9				6.5		16.3		
9	7.3			17.0	1.527	7.9				7.3		13.5		
10	7.4			15.7	1.579	7.9				6.6		13.6		
11	7.5			17.7	1.349	7.9				6.4		15.5		
12	7.3			17.1	1.363	7.9			0.07	6.8		14.8		
13	7.4	200	174	17.4	1.497	7.9	1.5	2.2		6.7		14.1	99.3	98.7
14	7.4			17.0	1.445	7.9				6.6		14.4		
15	7.4			16.7	1.469	8.0				6.8		13.7		
16	7.4			16.7	1.466	7.9				6.4		14.3		
17	7.5			18.0	2.853	7.8				4.3		16.0		
18	7.4			16.3	5.781	7.8				5.1		15.7		
19	7.3			16.7	1.866	7.9			0.70	6.4		14.7		
20	7.5	130	162	15.4	1.599	7.7	2.3	1.6		6.3		13.3	98.2	99.0
21	7.5			15.0	1.541	7.8				7.3		12.1		
22	7.5			14.0	1.746	7.9				7.3		11.3		
23	7.5			14.8	1.571	7.9				7.4		12.1		
24	7.4			15.1	1.518	7.8			0.03	7.5		11.5		
25	7.4	188	188	15.0	1.463	7.8	1.3	1.0		7.3		12.7	99.3	99.5
26	7.4			16.5	1.376	7.9				7.1		15.0		
27	7.6			12.9	2.529	7.9				7.4		12.0		
28	7.5			12.4	3.907	7.8				7.7		12.9		
29	7.6			13.1	2.132	7.8				7.4		12.2		
30	7.5			14.4	1.939	7.8				6.7		12.6		
Total					56.005									
Avg		182	212	16.4	1.867		1.7	1.8	0.25	6.7	0.0	14.3	99.0	99.1
Min	7.3	130	162	12.4	1.349	7.7	1.3	1.0	0.03	4.3	0.0	11.3	98.2	98.7
Max	7.6	210	324	19.4	5.781	8.0	2.3	2.4	0.70	7.7	0.0	17.2	99.3	99.5

MONTHLY EFFLUENT MONITORING		QUARTERLY EFFLUENT MONITORING	
DATE	Oil & Grease mg/L	Selenium µg/L	Zinc µg/L
1			
2			
3			
4			
5			
6			
7			
8			
9	< 5.0		
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			
31			
Total			
Avg	< 5.0	0.00	0.00
Min	< 5.0	0.00	0.00
Max	< 5.0	0.00	0.00

**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		2.9	3,660	460	15.5	3.8	2,880	550	15.6	47	0	7:30
2		3.0	3,520	430	15.6	3.9	3,870	650	15.7	45	0	7:30
3	7,406	3.6	3,730	450	16.5	2.5	4,110	550	16.5	47	0	7:30
4	11,664	2.5	3,480	480	17	3.8	3,480	410	17.1	60	0	7:30
5		2.5	3,290	540	17.4	3.3	3,630	500	17.5	61	0	7:30
6		1.9	4,250	540	17.4	1.7	3,190	390	17.5	46	1.1	7:30
7		2.7	3,140	520	15.8	3.2	3,570	480	16	38	0	7:30
8		2.3	3,370	360	16.1	1.5	3,380	440	16.2	38	0	7:30
9	6,480	4.1	3,770	510	13.7	4.1	3,560	480	14.2	32	0	7:30
10	5,554	3.2	3,190	480	13.3	3.0	3,360	480	13.6	34	0	7:30
11	4,629	2.3	3,040	530	15.7	3.1	3,230	420	17.5	60	0	7:30
12		3.4	3,390	410	14.5	2.4	3,550	540	14.8	46	0	7:30
13		3.3	3,820	410	13.6	2.2	3,660	450	14.7	34	0	7:30
14		3.5	3,510	400	13.9	2.4	2,990	330	14	40	0	7:30
15		3.7	3,430	460	13.4	2.8	3,670	500	13.7	40	0	7:30
16		3.5	3,310	330	13.8	2.0	3,240	370	14.2	50	0.6	7:30
17		1.2	3,650	370	16.3	1.4	2,820	370	16.6	64	2.1	7:30
18		0.9	4,490	490	15.6	1.4	3,840	390	15.7	50	3.7	7:30
19		4.0	4,580	600	14.4	5.8	3,960	500	14.4	45	0	7:30
20		3.0	4,280	580	12.9	3.0	4,120	530	13.2	38	0	7:30
21		3.3	4,130	480	12.6	3.6	2,930	460	12.6	37	0.5	7:30
22		4.6	4,170	620	11	4.2	3,360	490	11.5	25	0	7:30
23		4.3	3,270	550	11.8	4.3	3,230	580	12.1	36	0	7:30
24		3.9	4,470	680	11.7	5.0	3,520	490	11.8	34	0	7:30
25		2.8	4,690	610	13	4.0	3,260	400	13	52	0	7:30
26		2.6	3,990	450	14.8	3.8	3,690	470	14.5	65	0	7:30
27		2.9	3,330	340	12.9	4.1	3,280	400	13.3	42	1.75	7:30
28		3.1	3,210	320	12	4.3	2,640	280	13.9	39	0.6	7:30
29		3.0	3,500	400	12.2	4.1	3,570	430	12.2	41	0	7:30
30		3.7	3,340	360	12.4	3.3	4,430	700	12.5	43	0.4	7:30

COMMENTS:

TESTS PERFORMED BY (PRINT) Frank Hendricks	SIGNATURE <i>Frank Hendricks</i>	PHONE # (573)365-0455	DATE 12/2/2015
REPORT APPROVED BY (PRINT) Gary Hutchcraft	SIGNATURE <i>Gary Hutchcraft</i>	PHONE # (573)365-0455	DATE 12/2/2015

\*Required Daily (Monday / Friday)

\*\*Required 1/week

State of Missouri  
 Department of Natural Resources  
 NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
 DISCHARGE MONITORING REPORT (DMR)

Dep. of Natural Resources  
 (REGIONAL OFFICE)  
 Southwest Regional Office  
 2040 W. Woodland  
 Springfield, MO 65807-5912  
 4178914300  
 4178914399 (fax)

PERMITTEE NAME/ADDRESS

NAME: Lake of the Ozarks Regional WWTP #1  
 ADDRESS: 13 Anderson Road  
 LAKE OZARK, MO 63049

M00103241		001 A			
PERMIT NUMBER		DISCHARGE NUMBER			
MONITORING PERIOD					
YEAR	MO	DAY	YEAR	MO	DAY
2015	11	01	2015	11	30

FROM

TO

NOTE: READ PERMIT AND GENERAL INSTRUCTIONS BEFORE COMPLETING THIS FORM.

Parameter		MASS		Unit	CONCENTRATION		Unit	FREQUENCY OF ANALYSIS	SAMPLE TYPE	LAB CODE
BOD, 5-day, 20 deg. C (00310)	REPORTED	*****	*****		2.3	1.7	*****	Weekly	24 Hour Composite	
Stage Type: End of Pipe	REQUIREMENT	*****	*****		Weekly Average: 45 Monthly Average: 30		mg/L	Weekly	24 Hour Composite	
Flow, in conduit or thru treatment plant (00050)	REPORTED	5.781	1.867		*****	*****	*****	Daily	Record	
Stage Type: End of Pipe	REQUIREMENT	Daily Maximum : Monitoring Required	Monthly Average : Monitoring Required	Mgal/d	*****	*****	*****	Daily	Record	
Nitrogen, ammonia total (as N) (00610)	REPORTED	*****	*****		0.7	.25	*****	Weekly	Grab	
Stage Type: End of Pipe	REQUIREMENT	*****	*****		Daily Maximum : 10.6 Monthly Average : 2.7		mg/L	Weekly	Grab	
Oil and grease (swablet extr.) tot. (00550)	REPORTED	*****	*****		<5.0	<5.0	*****	Monthly	Grab	
Stage Type: End of Pipe	REQUIREMENT	*****	*****		Daily Maximum : 15 Monthly Average : 10		mg/L	Monthly	Grab	
CH (00400)	REPORTED	*****	*****		7.7	8.9	*****	Weekly	Grab	
Stage Type: End of Pipe	REQUIREMENT	*****	*****		Minimum : 6	Maximum : 9	*****	Weekly	Grab	
Temperature, water deg. celsius (00010)	REPORTED	*****	*****		17.2	14.3	*****	Weekly	Grab	
Stage Type: End of Pipe	REQUIREMENT	*****	*****		Daily Maximum : Monitoring Required Monthly Average : Monitoring Required		*****	Weekly	Grab	
Total Suspended Solids (TSS) (00530)	REPORTED	*****	*****		2.4	1.8	*****	Weekly	24 Hour Composite	
Stage Type: End of Pipe	REQUIREMENT	*****	*****		Weekly Average : 45 Monthly Average : 30		mg/L	Weekly	24 Hour Composite	

GENERAL PERMIT REQUIREMENTS OR COMMENTS:

OUTFALL-SPECIFIC COMMENTS:

PARAMETER-SPECIFIC COMMENTS:

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 providing statistics.

OPERATOR IN RESPONSIBLE CHARGE

Gary Hatchcraft		7303	
TYPED OR PRINTED NAME		CERTIFICATE NUMBER	
PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT		TELEPHONE	
Gary F Hatchcraft		573-365-0455	
TYPED OR PRINTED NAME		Date	
Gary F Hatchcraft		2015-12-02 12:04:36	
SIGNATURE		Date	

State of Missouri  
 Department of Natural Resources  
 NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
 DISCHARGE MONITORING REPORT (DMR)

Dep. of Natural Resources  
 (REGIONAL OFFICE)  
 Southwest Regional Office  
 2040 W. Woodland  
 Springfield, MO 65807-3912  
 4178914300  
 4178914399 (fax)

PERMITTEE NAME/ADDRESS

NAME: Lake of the Ozarks Regional WWTP #1  
 ADDRESS: #3 Anderson Road  
 LAKE OZARK, MO 65049

MO0103241	001 B
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD

FROM	YEAR	MO	DAY	TO	YEAR	MO	DAY
	2015	10	01		2015	12	31

NOTE: READ PERMIT AND GENERAL INSTRUCTIONS BEFORE COMPLETING THIS FORM.

Parameter	REPORTD	MASS	Unit	CONCENTRATION	Unit	FREQUENCY OF ANALYSIS	SAMPLE TYPE	LAB CODE
Selenium (Se), total recoverable (00981)	REPORTD	*****		<0.010		Quarterly	Grab	
Stage Type: End of Pipe	REQRMTD	*****		Daily Maximum: 8.1	ug/L	Monthly Average: 4.0	Grab	
Zinc (Zn), total recoverable (01094)	REPORTD	*****		<0.003		Quarterly	Grab	
Stage Type: End of Pipe	REQRMTD	*****		Daily Maximum: Monitoring Required	ng/L	Monthly Average: Monitoring Required	Grab	

GENERAL PERMIT REQUIREMENTS OR COMMENTS:

OUTFALL-SPECIFIC COMMENTS:

PARAMETER-SPECIFIC COMMENTS:

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 ensure that qualified personnel properly gather and evaluate the information submitted, based on my inquiry of the persons 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.

OPERATOR IN RESPONSIBLE CHARGE

Gary Hutchcraft	7305
TYPED OR PRINTED NAME	CERTIFICATE NUMBER
PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE
Gary F Hutchcraft	573-365-0455
TYPED OR PRINTED NAME	SIGNATURE
	2015-12-11 09:00:03
	Date





**WATER RESOURCES®**  
**Alliance**  
Professional Water and Wastewater Operations

**OPERATING  
DIVISIONS**

*MISSOURI*

Atchison County  
Bonne Terre  
Boonville  
Bowling Green  
Buchanan County #1  
Cameron  
Cape Girardeau  
Carroll County #1  
Craig  
East Central Missouri  
Water & Sewer  
Authority  
Elsberry  
Fayette  
Franklin County #1  
Franklin County #3  
Henry County  
Water Company  
Henry County #3  
Lake Ozark/  
Osage Beach  
Lincoln County #1  
Neosho  
Nevada  
Parkville  
Phelps County #2  
Platte County #C-1  
Proctor & Gamble  
Ralls County #1  
Russellville  
Sedalia  
St Charles County #2  
St Genevieve  
Versailles

*IOWA*  
Maquoketa  
Tipton

*TENNESSEE*  
South Fulton

**REPORT OF OPERATIONS**

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

**Month of December 2015**

Submitted by Alliance Water Resources, Inc. for the  
January 2016  
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-01013241. 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	1.9	1.8	NA	0		0.06	<5.0	NA
Peak Day	3.4	3.2	8.0	0		0.09	<5.0	NA
Percent Removal	98.8	98.9	NA	NA		NA	NA	NA

## 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		2.7	10	4.0
Weekly Average	45	45		630				
Daily Max						10.6	15	8.1

## PLANT HYDRAULIC AND ORGANIC LOADING

The average daily influent flow for the month was 1.710 MGD or 57% 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 70098 pounds of BOD.

## BIOSOLIDS APPLICATION AND INVENTORY

Plant personnel land applied 0 tanker loads of bio-solids during the month equivalent to a total of 0 gallons and 0 pounds dry weight solids.

476,046 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 435,625 gallons with a level of 4.5 feet in Tank 1 and 4.0 feet in Tank 2.

## WASTEHAULERS

The plant received 21 loads of septage during the month totaling 52,500 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 had to call in an electrician on the 2<sup>nd</sup> of December to help us with a control panel problem with both clarifiers. Steve Durban w/ Aesthetix Electric was here all day; he replaced a phase monitor, hands off switch on clarifier 2 and on clarifier 1 he cleaned some contacts in the actuator control box, found that the push button for the manual part of the ducking skimmer arm needed replaced. We had all the spare parts needed except for the manual push button. We ordered the part and have since put it on and both clarifiers' controls are working great now.
- We changed out a few of the overhead street light bulbs on the 9<sup>th</sup> and noticed while changing them that a couple of the light fixtures and ballast are in need of replacement. When we can get the overhead bucket truck back and weather permitting we will replace what's needed.
- We had a short in one of the exit lights in the headworks building on the 15<sup>th</sup> of December, so we went and purchased three new LED style lights. We got two of them installed that day and finished on the 16<sup>th</sup>. We replaced all three so we wouldn't have the old bulb style anymore and so they would all look the same.

## SAFETY

- We conducted our monthly routine Safety Meeting on Hazard Communication on the 9<sup>th</sup> of December.

## REGULATORY AGENCY, INSPECTION AND REPORTS

- We filled out the EDMR on MDNR website on the 7<sup>th</sup> of January.

## MISCELLANEOUS AND RECOMMENDATIONS

- We would like to Thank Matt and the City of Lake Ozark for letting us use their overhead bucket truck to replace a few of the parking lot lights, and also for sending out their backhoe and crew to help move some equipment out of the blower building at the digesters during the severe storms and flooding. Many Thanks!
- We have included updated copies of the plant 2016 ERP (Emergency Response Plan) and 2016 plant inventory. (See Attached)

**TABLE A  
LAKE OZARK/OSAGE BEACH WWTP**

**MONTH OF December 2015**

DATE	RAIN FALL IN.	FLOW					BOD 5 MG/L			TSS MG/L		
		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	0.3	0.204	1.280	1.484	13.7	86.3						
2-Dec	0	0.157	1.002	1.159	13.5	86.5						
3-Dec	0	0.134	0.876	1.010	13.3	86.7						
4-Dec	0	0.119	0.821	0.940	12.7	87.3	150	153	150	120	154	196
5-Dec	0	0.123	0.849	0.972	12.7	87.3						
6-Dec	0	0.140	0.890	1.030	13.6	86.4						
7-Dec	0	0.124	0.848	0.972	12.8	87.2						
8-Dec	0	0.119	0.809	0.928	12.8	87.2						
9-Dec	0	0.132	0.837	0.969	13.6	86.4						
10-Dec	0	0.129	0.842	0.971	13.3	86.7						
11-Dec	0	0.127	0.803	0.930	13.7	86.3	193	223	245	154	200	254
12-Dec	0	0.124	0.821	0.945	13.1	86.9						
13-Dec	0.25	0.147	0.991	1.138	12.9	87.1						
14-Dec	1.5	0.508	2.601	3.109	16.3	83.7						
15-Dec	0	0.260	1.241	1.501	17.3	82.7						
16-Dec	0	0.177	1.025	1.202	14.7	85.3						
17-Dec	0	0.132	0.900	1.032	12.8	87.2						
18-Dec	0	0.135	0.829	0.964	14.0	86.0	125	125	140	104	120	150
19-Dec	0	0.127	0.777	0.904	14.0	86.0						
20-Dec	0	0.132	0.862	0.994	13.3	86.7						
21-Dec	0.1	0.132	0.918	1.050	12.6	87.4						
22-Dec	0	0.122	0.869	0.991	12.3	87.7						
23-Dec	0.25	0.129	0.892	1.021	12.6	87.4	193	178	175	134	132	176
24-Dec	0	0.130	0.921	1.051	12.4	87.6						
25-Dec	0	0.122	0.754	0.876	13.9	86.1						
26-Dec	1.75	0.175	1.068	1.243	14.1	85.9						
27-Dec	4.5	1.620	6.489	8.109	20.0	80.0						
28-Dec	2.6	1.416	5.298	6.714	21.1	78.9						
29-Dec	0.4	0.926	4.227	5.153	18.0	82.0						
30-Dec	0	0.401	2.048	2.449	16.4	83.6						
31-Dec	0	0.180	1.004	1.184	15.2	84.8	80	83	83	52	72	78
SUM	11.7	8.603	44.392	52.995								
AVG		0.278	1.432	1.710	16	84	148	152	159	113	136	171

**NOTE: BOLD PRINT INDICATES WEEKEND DAYS**

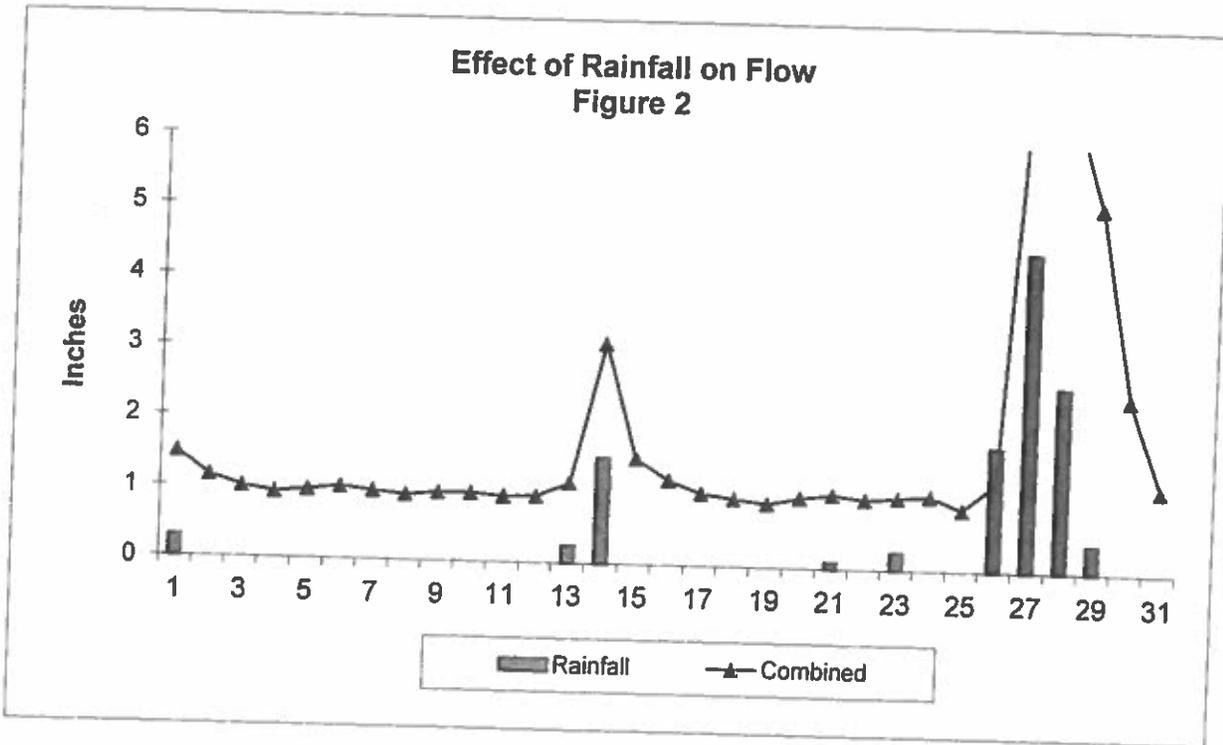
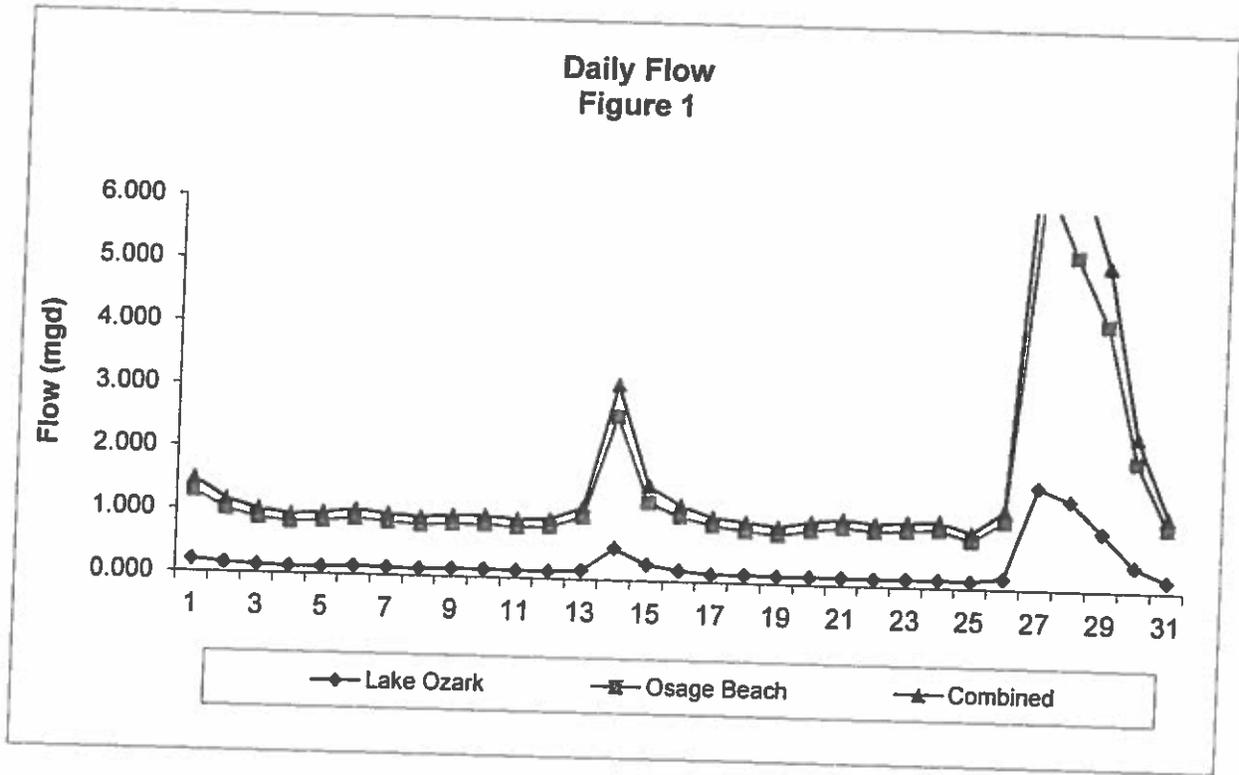


TABLE B  
JOINT SEWER BOARD  
Monthly Flows

<u>2013</u>	<u>RAINFALL</u>	<u>OSAGE BEACH</u>		<u>LAKE OZARK</u>		<u>TOTAL</u>	<u>%</u>
January	2.8	19,923,000	83%	4,104,000	17%	24,027,000	100%
February	4.2	19,290,000	83%	3,979,000	17%	23,269,000	100%
March	5.3	28,232,000	82%	6,308,000	18%	34,540,000	100%
April	8.7	31,410,000	81%	7,507,000	19%	38,917,000	100%
May	2.9	32,247,000	83%	6,560,000	17%	38,807,000	100%
June	4.6	40,205,000	83%	8,185,000	17%	48,390,000	100%
July	2.2	46,803,000	84%	8,794,000	16%	55,597,000	100%
August	15.0	45,742,000	83%	9,351,000	17%	55,093,000	100%
September	2.3	33,128,000	83%	6,869,000	17%	39,997,000	100%
October	3.6	27,722,000	82%	5,996,000	18%	33,718,000	100%
November	2.5	22,915,000	83%	4,775,000	17%	27,690,000	100%
December	2.5	19,507,000	83%	4,038,000	17%	23,545,000	100%

56.6	367,124,000	83%	76,466,000	17%	443,590,000	100%
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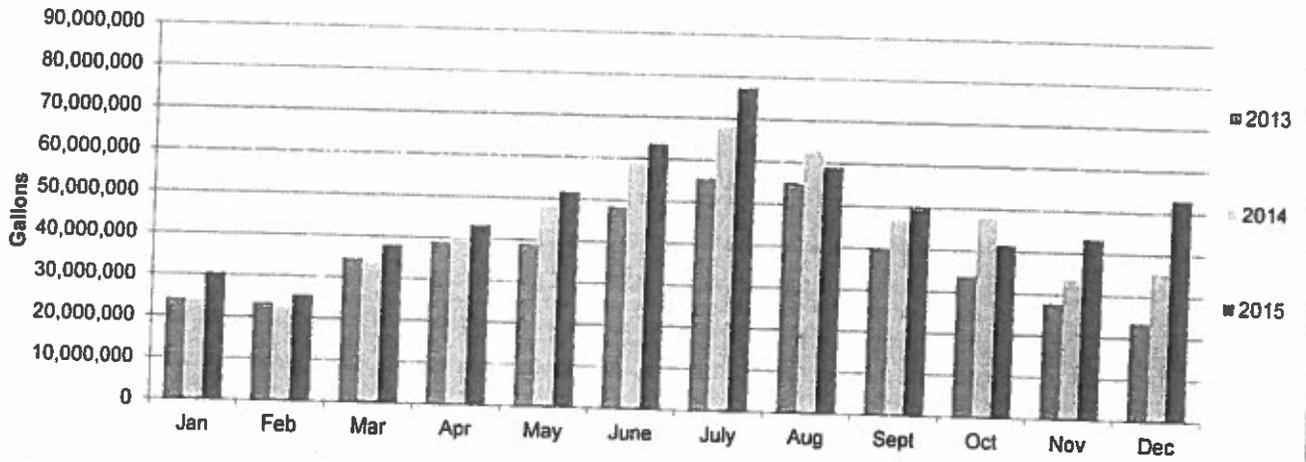
<u>2014</u>	<u>RAINFALL</u>	<u>OSAGE BEACH</u>		<u>LAKE OZARK</u>		<u>TOTAL</u>	<u>%</u>
January	3.0	19,229,000	81%	4,634,000	19%	23,863,000	100%
February	1.3	18,444,000	82%	4,114,000	18%	22,558,000	100%
March	1.2	28,731,000	85%	5,061,000	15%	33,792,000	100%
April	5.1	33,479,000	84%	6,515,000	16%	39,994,000	100%
May	4.7	41,054,000	85%	7,129,000	15%	48,183,000	100%
June	5.1	50,416,000	86%	8,342,000	14%	58,758,000	100%
July	3.1	59,089,000	87%	9,059,000	13%	68,148,000	100%
August	2.9	54,624,000	87%	8,228,000	13%	62,852,000	100%
September	3.4	40,316,000	86%	6,735,000	14%	47,051,000	100%
October	7.9	41,322,000	86%	6,659,000	14%	47,981,000	100%
November	1.6	29,315,000	87%	4,506,000	13%	33,821,000	100%
December	2.6	31,534,000	88%	4,204,000	12%	35,738,000	100%

41.7	447,553,000	85%	75,186,000	15%	522,739,000	100%
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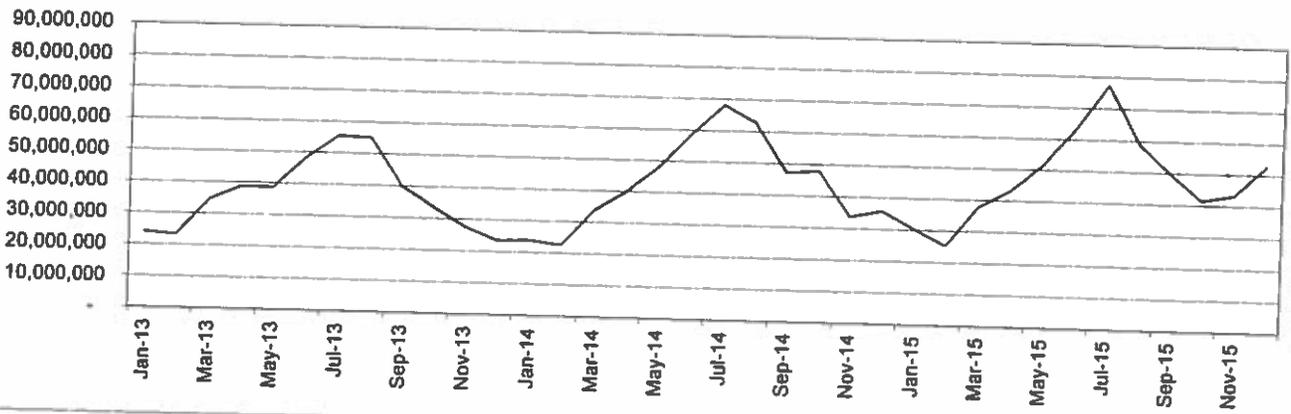
<u>2015</u>	<u>RAINFALL</u>	<u>OSAGE BEACH</u>		<u>LAKE OZARK</u>		<u>TOTAL</u>	<u>%</u>
January	0.9	26,319,000	87%	4,085,000	13%	30,404,000	100%
February	1.4	21,892,000	86%	3,465,000	14%	25,357,000	100%
March	4.5	32,996,000	87%	4,920,000	13%	37,916,000	100%
April	4.0	37,220,000	86%	5,945,000	14%	43,165,000	100%
May	7.2	44,456,000	86%	7,209,000	14%	51,665,000	100%
June	7.1	54,745,000	86%	8,769,000	14%	63,514,000	100%
July	9.7	66,474,000	86%	10,871,000	14%	77,345,000	100%
August	3.5	51,695,000	88%	7,327,000	12%	59,022,000	100%
September	3.1	43,144,000	87%	6,531,000	13%	49,675,000	100%
October	1.8	36,230,000	87%	5,216,000	13%	41,446,000	100%
November	10.8	37,047,000	86%	6,247,000	14%	43,294,000	100%
December	11.7	44,392,000	84%	8,603,000	16%	52,995,000	100%

65.7	496,610,000	87%	79,188,000	13%	575,798,000	100%
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Monthly Influent Flow  
Figure 3A

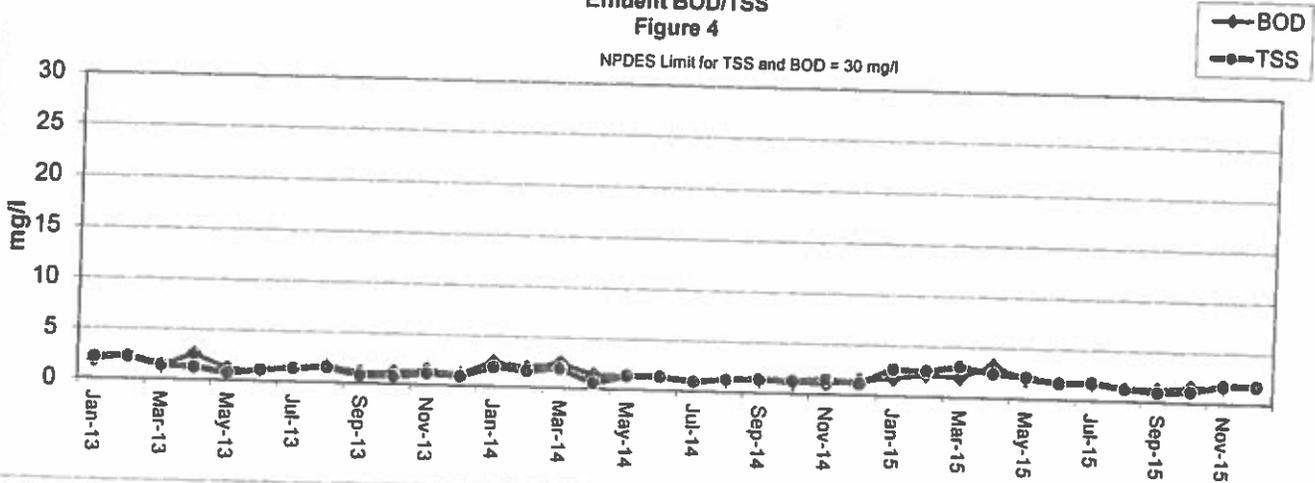


Monthly Influent Flow  
Figure 3B

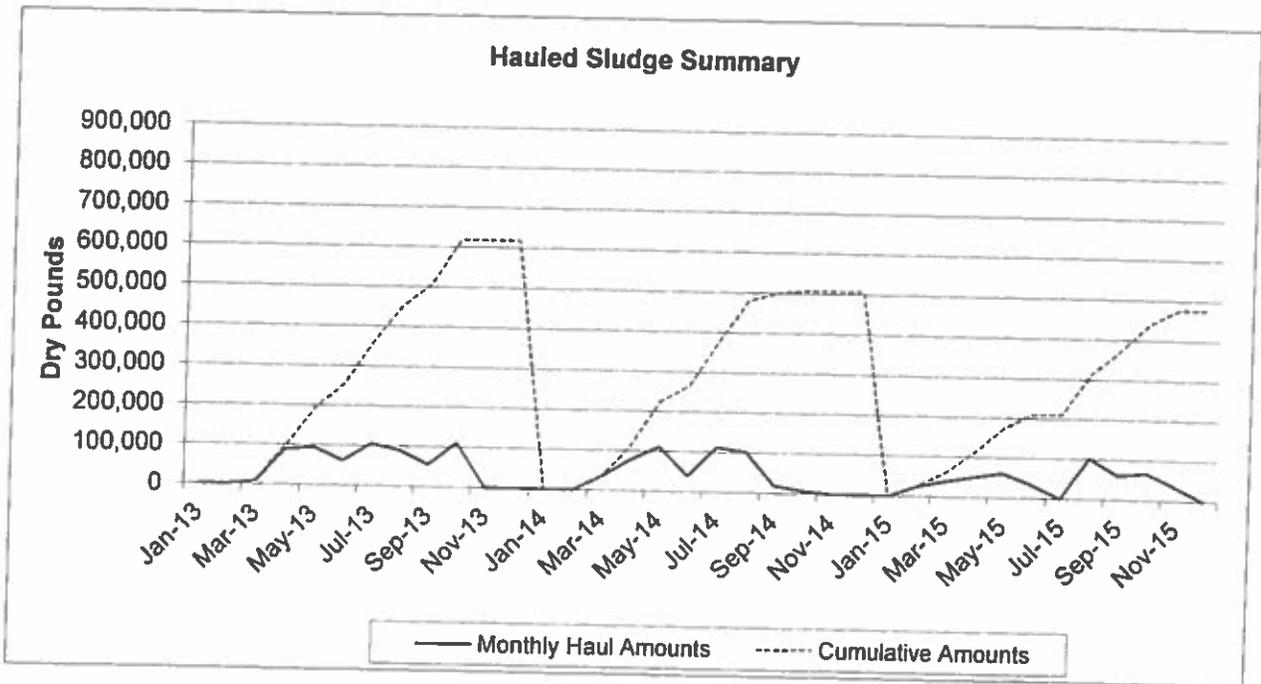
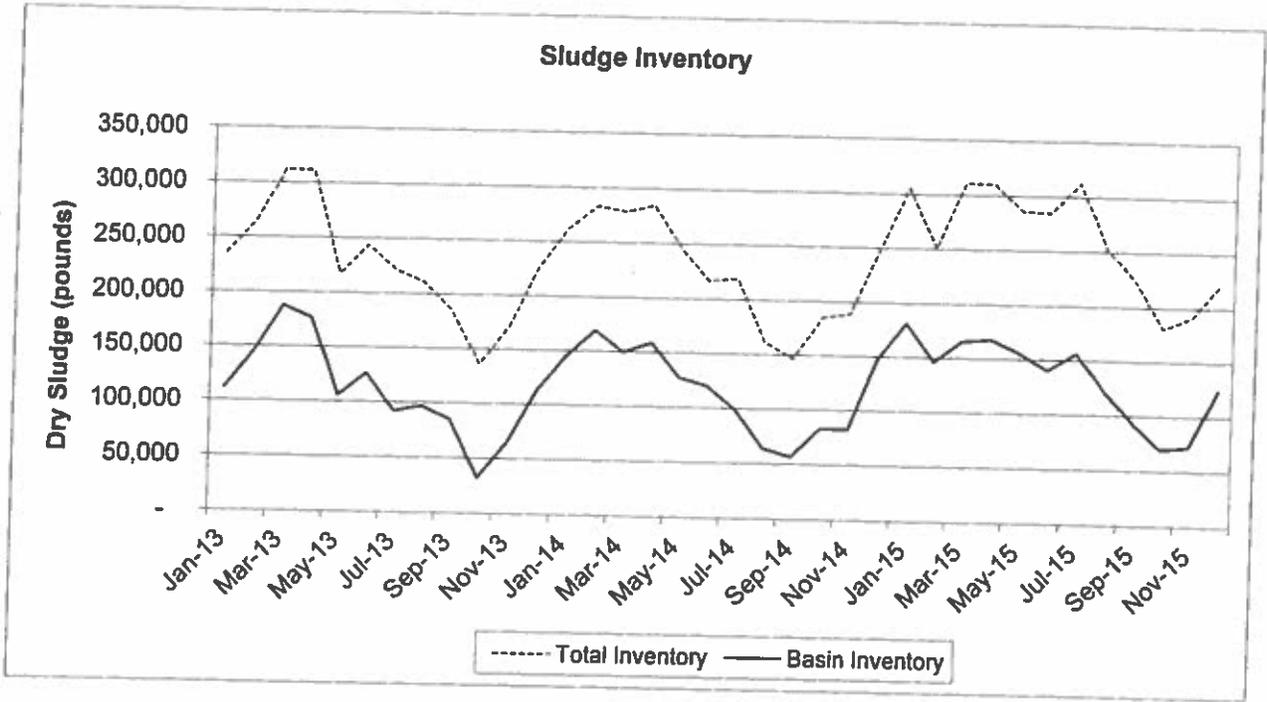


Effluent BOD/TSS  
Figure 4

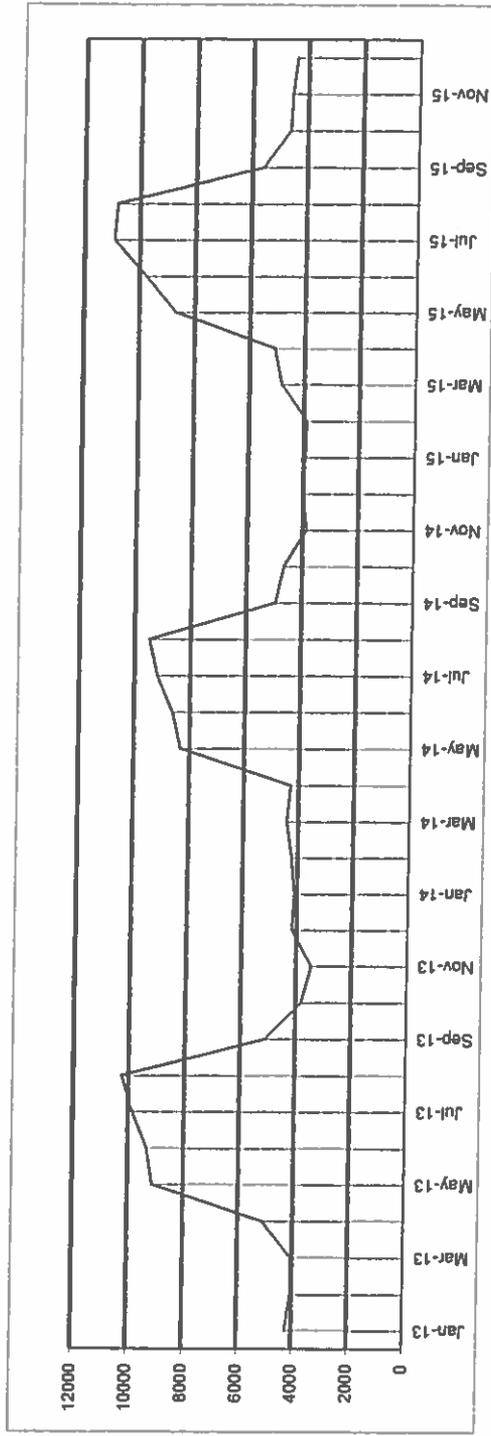
NPDES Limit for TSS and BOD = 30 mg/l



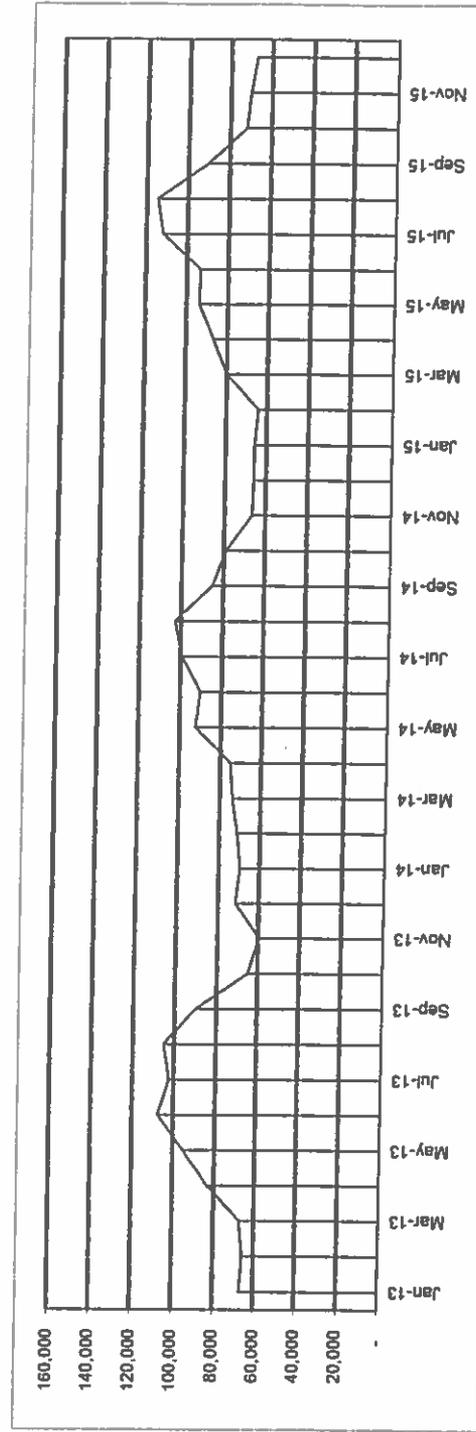
Date	Hauled Sludge		Annual Cumulative # Dry		Basin Depths		Blanket Depths		MLSS Inventory		Blanket and MLSS Inventory		MLSS		Accepted Septage			
	Loads	Gallons	# Dry	% Solids	Tank #1	Tank #2	AB #1	AB #2	Clarf #1	Clarf #2	Clarf #3	MLSS AB #1	MLSS AB #2	Gallons	# Dry	% Solids	Loads	Gallons
Jan-13	0	-	0	3.5%	6.0	2.5	0.0	0.0	1.5	2.0	0.0	4,120	4,010	3,662,167	124,155	0.00407	26	65,000
Feb-13	0	-	0	3.5%	6.0	5.0	0.0	0.0	1.0	2.0	1.0	4,000	3,740	3,698,714	119,314	0.00387	56	110,000
Mar-13	8	29,600	8,517	3.9%	8.0	6.5	0.0	0.0	2.0	1.0	4,000	4,000	4,050	123,915	0.004	21	52,500	
Apr-13	74	273,800	89,468	3.9%	8.0	6.0	0.0	0.0	2.5	2.0	4,620	4,130	3,766,785	135,084	0.0043	24	60,000	
May-13	82	303,400	95,228	3.8%	3.5	4.0	0.0	0.0	3.0	5.0	3,970	3,040	3,828,952	111,767	0.0035	36	85,500	
Jun-13	54	189,800	62,210	3.7%	6.0	3.0	0.0	0.0	1.0	7.0	3,650	3,540	3,828,952	117,984	0.0037	47	117,500	
Jul-13	97	358,900	105,164	3.5%	6.0	1.0	0.0	0.0	1.5	2.0	3,950	4,170	3,705,595	129,191	0.00418	58	137,500	
Aug-13	74	273,800	90,969	4.0%	6.5	0.0	0.0	0.0	2.0	2.5	3,590	3,680	3,766,785	114,036	0.00363	57	142,500	
Sep-13	48	177,600	56,069	3.8%	5.0	1.0	0.0	0.0	2.0	1.5	3,150	3,300	3,727,309	100,252	0.00323	39	97,500	
Oct-13	83	307,100	110,472	4.3%	2.0	0.0	0.0	0.0	2.0	2.0	2,950	3,690	3,757,904	103,895	0.00332	32	80,000	
Nov-13	0	-	0	4.3%	4.0	0.0	0.0	0.0	1.0	0.0	3,220	3,740	3,661,190	106,269	0.00348	15	37,500	
Dec-13	0	-	0	4.3%	5.0	2.0	0.0	0.0	0.0	0.5	3,600	3,980	3,652,309	113,921	0.00374	19	47,500	
Jan-14	0	-	0	4.3%	4.0	5.0	0.0	0.0	2.0	2.5	3,690	3,960	3,679,929	117,392	0.00383	22	54,500	
Feb-14	0	-	0	4.3%	5.0	5.0	0.0	0.0	1.5	2.5	3,410	4,030	3,671,048	113,894	0.00372	6	15,000	
Mar-14	29	107,300	35,703	4.0%	5.0	5.5	0.0	0.0	0.5	0.5	4,270	4,230	3,639,478	129,001	0.00425	35	90,500	
Apr-14	65	240,500	77,178	3.8%	5.0	5.0	0.0	0.0	1.5	1.5	4,420	3,710	3,709,547	125,761	0.00407	30	75,000	
May-14	96	355,200	111,613	3.8%	224,492	7.5	3.5	0.0	1.0	2.0	3,550	4,040	3,740,142	118,377	0.0038	24	60,000	
Jun-14	41	151,700	40,455	3.2%	5.5	3.5	0.0	0.0	3.0	2.0	3,530	2,630	3,775,666	96,986	0.00308	26	61,000	
Jul-14	117	432,900	112,292	3.1%	4.5	5.5	0.0	0.0	5.0	1.5	4,030	3,610	3,780,595	120,445	0.00382	44	111,500	
Aug-14	107	395,900	102,973	3.1%	5.5	2.0	0.0	0.0	1.0	1.0	3,690	2,640	3,678,952	97,110	0.00317	55	129,000	
Sep-14	17	62,900	19,811	3.8%	2.5	1.5	0.0	0.0	1.0	1.5	2,670	3,210	3,670,071	89,989	0.00294	37	92,500	
Oct-14	5	18,500	6,769	4.4%	4.0	1.0	0.0	0.0	0.0	1.5	2,990	3,620	3,713,499	102,358	0.00331	33	79,500	
Nov-14	0	-	0	4.4%	5.0	4.0	0.0	0.0	0.0	2.0	3,630	3,330	3,678,952	106,775	0.00348	20	50,000	
Dec-14	0	-	0	4.4%	5.5	5.5	0.0	0.0	2.0	2.0	3,460	3,060	3,722,390	101,516	0.00327	18	40,000	
Jan-15	0	-	0	4.4%	6.0	4.0	0.0	0.0	2.0	2.0	3,900	4,160	3,671,048	123,385	0.00403	22	55,000	
Feb-15	20	74,000	24,069	3.9%	5.5	6.5	0.0	0.0	1.0	1.0	3,580	3,290	3,635,524	104,150	0.00344	20	50,000	
Mar-15	34	125,800	38,603	3.7%	6.0	6.0	0.0	0.0	2.0	2.0	5,040	4,250	3,740,142	144,890	0.00465	11	27,500	
Apr-15	44	162,800	50,607	3.7%	5.5	6.0	0.0	0.0	2.5	2.0	5,180	4,000	3,723,357	142,532	0.00459	23	57,500	
May-15	55	203,500	61,284	3.6%	6.0	6.0	0.0	0.0	1.5	2.0	4,030	4,110	3,635,579	130,204	0.00407	26	65,000	
Jun-15	35	129,500	35,024	3.2%	8.0	3.5	0.0	0.0	2.0	1.0	4,630	4,560	3,783,570	144,837	0.00459	37	92,500	
Jul-15	0	-	0	3.2%	6.5	6.5	0.0	0.0	0.5	1.0	5,470	4,660	3,698,714	156,157	0.00507	42	104,000	
Aug-15	107	395,900	102,356	3.1%	311,943	6.5	4.0	0.0	1.0	1.0	4,170	4,400	3,646,357	130,533	0.00429	44	110,000	
Sep-15	55	203,500	60,420	3.6%	372,353	5.5	1.5	0.0	1.0	1.0	4,480	3,570	3,678,952	130,400	0.00425	32	80,000	
Oct-15	59	218,300	67,949	3.7%	440,312	4.0	1.0	0.0	1.0	1.0	3,310	3,920	3,678,952	110,917	0.00362	22	55,000	
Nov-15	30	111,000	35,734	3.9%	478,046	3.0	2.0	0.0	1.0	3.0	3,440	4,430	3,714,476	118,803	0.00384	19	47,500	
Dec-15	0	-	0	3.9%	478,046	4.5	4.0	0.0	2.0	0.5	4,460	1,940	3,709,547	99,000	0.00332	21	52,500	



## Electric Cost



## Kilowatts Used



### Electric Cost    Kilowatts Used

Jan-13	4240	66,990
Feb-13	4069	65,810
Mar-13	4056	67,500
Apr-13	5132	83,390
May-13	9135	95,360
Jun-13	9331	107,780
Jul-13	9861	102,490
Aug-13	10255	105,350
Sep-13	5108	89,830
Oct-13	3806	64,870
Nov-13	3459	59,610
Dec-13	4171	71,660
Jan-14	4116	69,690
Feb-14	4226	71,330
Mar-14	4427	73,840
Apr-14	4297	75,240
May-14	8325	92,580
Jun-14	8643	90,400
Jul-14	9200	99,540
Aug-14	9483	103,070
Sep-14	4953	85,380
Oct-14	4663	78,920
Nov-14	3864	66,400
Dec-14	4009	66,040
Jan-15	3947	65,860
Feb-15	3901	64,300
Mar-15	4821	80,190
Apr-15	5084	87,050
May-15	8707	93,810
Jun-15	9772	93,490
Jul-15	10912	112,040
Aug-15	10807	114,770
Sep-15	5585	90,520
Oct-15	4620	71,940
Nov-15	4556	70,170
Dec-15	4413	67,300



**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-15		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	7.5			13.8	2.087	7.8				6.5		12.1		
2	7.4			14.3	1.613	7.8				7.1		12.3		
3	7.4			13.4	1.607	7.9			0.09	7.6		11.3		
4	7.5	150	196	13.2	1.534	7.9	1.9	2.6		7.8		10.6	98.7	98.7
5	7.4			13.4	1.497	7.9				7.5		10.1		
6	7.4			13.4	1.572	7.8				7.3		10.7		
7	7.5			12.5	1.502	7.8				7.4		10.4		
8	7.4			13.3	1.461	7.9				7.6		10.9		
9	7.5			13.7	1.394	7.8				7.0		11.3		
10	7.4			15.0	1.505	7.8			0.07	7.0		12.4		
11	7.4	245	254	13.7	1.454	7.8	1.6	1		7.2		11.2	99.3	99.6
12	7.3			14.8	1.229	7.8				7.4		11.4		
13	7.4			15.0	1.517	7.8				7.0		14.2		
14	7.5			13.2	3.638	7.8				5.2		14.0		
15	7.3			13.9	2.093	7.8				6.1		13.1		
16	7.3			14.0	1.625	7.8				6.6		12.8		
17	7.4			13.3	1.600	7.9			0.08	7.0		11.1		
18	7.3	140	150	13.5	1.586	7.8	1.6	1.2		7.2		10.5	98.9	99.2
19	7.4			12.7	1.449	7.8				7.7		9.6		
20	7.5			13.3	1.531	7.9				7.6		10.4		
21	7.4			14.4	1.539	8.0				6.7		13.2		
22	7.4			13.0	1.454	7.8				6.9		11.1		
23	7.4	175	176	14.4	1.548	7.8	1.2	1.2	0.02	6.4		12.7	99.3	99.3
24	7.2			13.9	1.513	7.8				6.8		11.5		
25	7.4			12.9	1.398	7.9				7.1		10.9		
26	7.6			13.1	1.687	7.7				5.0		11.9		
27	7.6			10.1	9.048	7.6				4.8		11.8		
28	7.6			10.9	7.512	7.5				5.3		11.2		
29	7.6			10.8	6.159	7.4			0.02	6.1		10.5		
30	7.5			11.0	3.264	7.8				8.9		9.8		
31	7.4	83	78	11.1	1.875	7.7	3.4	3.2		7.9		8.8	95.9	95.9
Total					70.491									
Avg		159	171	13.2	2.274		1.9	1.8	0.06	6.9	0.0	11.4	98.4	98.5
Min	7.2	83	78	10.1	1.229	7.4	1.2	1.0	0.02	4.8	0.0	8.8	95.9	95.9
Max	7.6	245	254	15.0	9.048	8.0	3.4	3.2	0.09	8.9	0.0	14.2	99.3	99.6

MONTHLY EFFLUENT MONITORING		QUARTERLY EFFLUENT MONITORING	
DATE	Oil & Grease mg/L	Selenium µg/L	Zinc µg/L
1			
2			
3			
4			
5			
6			
7	< 5.0		
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			
31			
Total			
Avg	< 5.0	0.00	0.00
Min	< 5.0	0.00	0.00
Max	< 5.0	0.00	0.00

**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				* Ambient Temp °F	*RAIN inches	Time
		* DO mg/l	** MLSS mg/l	*Settleability		* DO mg/l	** MLSS mg/l	*Settleability				
				*30 min ml	Temp °C			*30 min ml	Temp °C			
1		3.2	3,940	480	11.8	3.2	4,270	580	12.2	35	0.3	7:30
2		5.4	2,920	320	11.7	5.1	3,560	400	11.9	38	0	7:30
3		4.9	3,760	450	10.8	5.3	3,870	650	11.1	30	0	7:30
4		5.2	3,450	550	10.7	4.6	4,000	610	10.8	29	0	7:30
5		4.4	3,960	510	10.3	5.1	3,890	450	10.2	30	0	7:30
6		4.2	4,100	600	10.5	5.1	3,510	460	10.9	37	0	7:30
7		3.3	3,400	550	10.5	3.7	4,130	520	10.6	37	0	7:30
8		3.8	4,200	630	11.1	3.5	3,300	440	11.3	37	0	7:30
9		3.5	3,900	600	11.4	2.7	2,300	310	11.8	40	0	7:30
10		2.8	4,460	600	12.2	4.1	3,580	450	12.1	53	0	7:30
11		2.9	4,350	540	11.4	3.1	3,460	480	11.6	36	0	7:30
12		3.1	3,950	520	12.6	3.3	3,480	430	12.6	48	0	7:30
13		2.7	4,100	450	14.7	2.9	3,750	440	14.5	62	0.25	7:30
14		1.3	3,510	370	13.6	1.4	3,500	400	13.8	46	1.5	7:30
15		1.1	4,830	700	12.9	4.2	2,870	310	13	39	0	7:30
16		2.2	3,480	460	12.9	4.2	3,530	380	13	47	0	7:30
17		3.9	3,730	500	11.1	4.3	3,480	450	11.2	28	0	7:30
18		4.2	2,720	470	10.2	5.4	3,780	430	10.4	28	0	7:30
19		5.1	3,600	460	9.6	5.7	3,440	460	9.7	29	0	7:30
20		3.7	3,650	490	10.7	4.3	3,390	400	10.9	46	0	7:30
21		1.8	4,420	530	12.1	2.9	3,380	360	12.2	57	0.1	7:30
22		3.2	3,570	400	11.1	4.2	3,820	450	11.4	41	0	7:30
23		1.4	3,330	400	12.9	1.3	3,780	420	12.8	56	0.25	7:30
24		3.1	3,620	400	11.8	3.1	3,880	530	11.9	37	0	7:30
25		3.9	3,520	350	11	3.3	4,120	580	11.2	34	0	7:30
26		1.3	3,480	350	11.9	1.5	3,680	400	12.1	50	1.75	7:30
27		2.8	2,640	220	11	2.3	2,730	220	11.6	41	4.5	7:30
28		4.4	2,470	210	11.1	4.3	1,960	210	11.4	40	2.6	7:30
29		5.2	2,180	190	10.1	5.4	2,060	190	10.4	30	0.4	7:30
30		6.7	3,340	300	9.3	9.2	2,440	200	9.2	33	0	7:30
31		3.5	4,460	440	9	7.9	1,940	210	9.1	33	0	7:30

COMMENTS:

TESTS PERFORMED BY (PRINT) John Hornback	SIGNATURE 	PHONE # (573)365-0455	DATE 1/6/2015
REPORT APPROVED BY (PRINT) Gary Hutchcraft	SIGNATURE 	PHONE # (573)365-0455	DATE 1/6/2015

\*Required Daily (Monday - Friday)

\*\*Required 1/week

State of Missouri  
 Department of Natural Resources  
 NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
 DISCHARGE MONITORING REPORT (DMR)

Dep. of Natural Resources  
 (REGIONAL OFFICE)  
 Southwest Regional Office  
 2040 W. Woodlind  
 Springfield, MO 65807-5912  
 4178914300  
 4178914399 (fax)

PERMITTEE NAME/ADDRESS

NAME: Lake of the Ozarks Regional WWTP #1  
 ADDRESS: #3 Anderson Road  
 LAKE OZARK, MO 65049

MO0103241	001 A
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD						
YEAR	MO	DAY	YEAR	MO	DAY	
2015	12	01	TO	2015	12	31

FROM

NOTE: READ PERMIT AND GENERAL INSTRUCTIONS BEFORE COMPLETING THIS FORM.

Parameter	REPORTED	MASS		Unit	CONCENTRATION			Unit	FREQUENCY OF ANALYSIS	SAMPLE TYPE	LAB CODE
		REQUIREMENT	REQUIREMENT		Weekly Average	Monthly Average	Other				
BOD, 5-day, 20 deg. C (00310)	REPORTED	*****	*****		3.4	1.9	*****	mg/L	Weekly	24 Hour Composite	
Stage Type: End of Pipe	REQUIREMENT	*****	*****		Weekly Average: 45	Monthly Average: 30	*****		Weekly	24 Hour Composite	
Flow, in conduit or thru treatment plant (50050)	REPORTED	9.848	2.374		*****	*****	*****		Daily	Record	
Stage Type: End of Pipe	REQUIREMENT	Daily Maximum: Monitoring Required	Monthly Average: Monitoring Required	Mgal/d	*****	*****	*****		Daily	Record	
Nitrogen, ammonia total (as N) (00610)	REPORTED	*****	*****		.89	.86	*****	mg/L	Weekly	Grab	
Stage Type: End of Pipe	REQUIREMENT	*****	*****		Daily Maximum: 10.6	Monthly Average: 2.7	*****		Weekly	Grab	
Oil and grease (sorbent extr.) tot. (00550)	REPORTED	*****	*****		<5.0	<5.0	*****	mg/L	Monthly	Grab	
Stage Type: End of Pipe	REQUIREMENT	*****	*****		Daily Maximum: 15	Monthly Average: 10	*****		Monthly	Grab	
pH (00400)	REPORTED	*****	*****		7.4	8.0	*****	SU	Weekly	Grab	
Stage Type: End of Pipe	REQUIREMENT	*****	*****		Minimum: 6	Maximum: 9	*****		Weekly	Grab	
Temperature, water deg. celsius (00010)	REPORTED	*****	*****		14.2	11.4	*****	deg C	Weekly	Grab	
Stage Type: End of Pipe	REQUIREMENT	*****	*****		Daily Maximum: Monitoring Required	Monthly Average: Monitoring Required	*****		Weekly	Grab	
Total Suspended Solids (TSS) (00530)	REPORTED	*****	*****		3.2	1.8	*****	mg/L	Weekly	24 Hour Composite	
Stage Type: End of Pipe	REQUIREMENT	*****	*****		Weekly Average: 45	Monthly Average: 30	*****		Weekly	24 Hour Composite	

GENERAL PERMIT REQUIREMENTS OR COMMENTS:  
 OUTFALL-SPECIFIC COMMENTS:  
 PARAMETER-SPECIFIC COMMENTS:

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 ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the persons 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.

OPERATOR IN RESPONSIBLE CHARGE

Gary Hutchcraft	7305
TYPED OR PRINTED NAME	CERTIFICATE NUMBER
PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE
	573-365-0455
TYPED OR PRINTED NAME	SIGNATURE
	Date





JOINT SEWER BOARD  
BILL LIST  
FEBRUARY 16, 2016

OPERATING FUND BILLS PAID PRIOR TO BOARD MEETING:	\$ -
OPERATING FUND BILLS TO BE PAID:	\$ 33,156.33
EQUIPMENT REPLACEMENT FUND BILLS PAID PRIOR TO BOARD MEETING:	\$ 1,830.00
EQUIPMENT REPLACEMENT FUND BILLS TO BE PAID:	\$ -
<b>TOTAL</b>	<b>\$ 34,986.33</b>

OPERATING FUND BILLS PAID PRIOR TO BOARD MEETING:

Account	Check	Paid To:	Description:	Amount:
<b>TOTAL</b>				<b>\$ -</b>

OPERATING FUND BILLS TO BE PAID:

Account	Check	Paid To:	Description:	Amount:
4175	3496	Ameren MO	Jan 2016 Electric	\$ 3,223.42
4000	3497	Equipment Replacement Fund	Payment into ER Fund	\$ 3,467.17
4170	3498	Alliance Water Resources, Inc.	Management Fee	\$ 25,303.24
4160	3499	Alliance Water Resources, Inc.	Hauled Wasted	\$ 1,100.00
4020	3500	Alliance Water Resources, Inc.	Welding Volute for Pista Grit	\$ 62.50
<b>TOTAL</b>				<b>\$ 33,156.33</b>

EQUIPMENT REPLACEMENT FUND BILLS PAID PRIOR TO BOARD MEETING:

Account	Check	Paid To:	Description:	Amount:
E/R	1013	Jeffries Construction LLC	Install doors in Treatment Plant	\$ 1,830.00
<b>TOTAL</b>				<b>\$ 1,830.00</b>

EQUIPMENT REPLACEMENT FUND BILLS TO BE PAID:

Account	Check	Paid To:	Description:	Amount:
<b>TOTAL</b>				<b>\$ -</b>



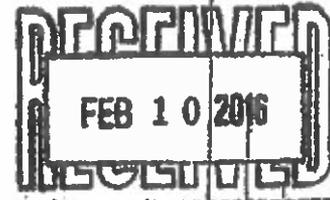
Please Return This Portion With Your Payment.

\$3,098.91	Feb 23, 2016
\$3,145.39	45800-05832

Amount Enclosed \$

ALLIANCE WATER RESOURCES INC  
PO BOX 1986  
LAKE OZARK, MO 65049

Ameren Missouri  
P.O. Box 88068  
Chicago, IL 60680-1068



20600000 0045800058302 000003098910 000003098910

Keep This Portion For Your Records

45800-05832
ALLIANCE WATER RESOURCES INC
3 ANDERSON RD, - LAKE OZARK, MO 65049

Feb 10, 2016
--------------

Feb 23, 2016	\$3,098.91
Mar 3, 2016	\$3,145.39

Payment Received on Jan 28, 2016 \$4,298.27

Total kWh	11673321	01/10-02/08	29	32734.0000	33078.0000	344.0000	160.0000	55040.0000A
Peak kW	11673321	01/10-02/08	29	0.0000	0.5680	0.5680	160.0000	90.8800A

		Service To		SUMMARY		Service To	
Total kWh	02/08/2016	55040.0000	Peak kW	02/08/2016	90.9000		
Total Billing Demand	02/08/2016	100.0000	October Winter Base kW	02/08/2016	145.1000		
Winter Base Demand	02/08/2016	90.9000	Base kWh Ratio	02/08/2016	1.0000		
Base kWh (HUD)	02/08/2016	55040.0000	Seasonal kWh (HUD)	02/08/2016	0.0000		

METERED ELECTRIC SERVICE BILLING

Rate JM Large General Service	Service From 01/10/2016	To 02/08/2016
Seasonal Energy Charge	0.00 kWh	\$ 0.00
Demand Charge	100.00 kW	\$179.00
Base Energy Chg / Hours Used	13,635.00 kWh	\$ 887.64
Base Energy Chg / Hours Used	18,160.00 kWh	\$ 878.09
Base Energy Chg / Hours Used	23,225.00 kWh	\$ 882.55
Customer Charge		\$92.85
Fuel Adjustment Charge	55,040.00 kWh	\$105.13
Energy Efficiency Pgm Charge	55,040.00 kWh	\$22.02
Energy Efficiency Invest Chg	55,040.00 kWh	\$51.63
Total Service Amount		\$3,098.91

Current Amount Due	\$3,098.91
Prior Amount Due	\$0.00
Total Amount Due	\$3,098.91

The ActOnEnergy® BlzSavers® program has CASH INCENTIVES available for your next energy efficiency project! Everything from lighting to controls to new construction. Visit ActOnEnergy.com/BlzSavers to learn more.

A late payment charge of 1.5% will be added for any unpaid balance on all accounts after the delinquent date.



Please Return This Portion With Your Payment.

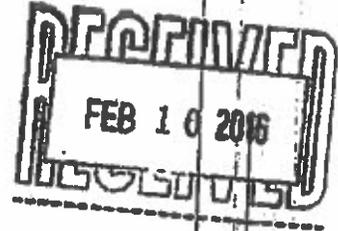
Pure Power

\$124.51	Feb 23, 2016
\$126.38	55800-05920

Amount Enclosed \$ \_\_\_\_\_

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

Ameren Missouri  
P.O. Box 88088  
Chicago, IL 60680-1088



90633000 0055800059200 000000124510 000000124510

Keep This Portion For Your Records

55800-05920
ALLIANCE WATER RESOURCES INC
3 ANDERSON RD
LAKE OZARK, MO 65049

Feb 10, 2016
--------------

Feb 23, 2016	\$124.51
Mar 3, 2016	\$126.38

Payment Received on Jan 26, 2016 \$113.58

Total kWh	98041275	01/10-02/08	29	9599.0000	9724.0000	125.0000	10.0000	1259.0000A
Peak kW	98041275	01/10-02/08	29	0.0000	0.7600	0.7600	10.0000	7.6000A

Total kWh	02/08/2016	1250.0000	Winter Base kWh	02/08/2016	1810.0000
Current Base kWh	02/08/2016	1250.0000	Seasonal kWh	02/08/2016	0.0000

**METERED ELECTRIC SERVICE BILLING**

Rate 2M Sm Gen Svc - 3 Ph w/Omd  
Threshold - Peak Demand  
Service From 01/10/2016 To 02/08/2016

Base Energy Charge	1,250.00 kWh	@ \$0.08060000	\$100.75
Seasonal Energy Charge	0.00 kWh	@ \$0.04650000	\$0.00
Customer Charge			\$20.43
Fuel Adjustment Charge	1,250.00 kWh	@ \$0.01910000	\$23.39
Energy Efficiency Pgm Charge	1,250.00 kWh	@ \$0.00200000	\$0.25
Energy Efficiency Invest Chg	1,250.00 kWh	@ \$0.00054900	\$0.69
<b>Total Service Amount</b>			<b>\$124.51</b>

Current Amount Due	\$124.51
Prior Amount Due	\$0.00
<b>Total Amount Due</b>	<b>\$124.51</b>

The ActOnEnergy® BizSavers® program has CASH INCENTIVES available for your next energy efficiency project! Everything from lighting to controls to new construction. Visit ActOnEnergy.com/BizSavers to learn more.

Sign up for Pure Power to support clean renewable energy in Missouri and the Midwest. By checking the box, a 1 cent per kilowatt hour charge will apply. You may cancel at any time.

A late payment charge of 1.5% will be added for any unpaid balance on all accounts after the delinquent date.

**Alliance Water Resources, Inc.**  
*Professional Water and Wastewater Operations*  
 206 South Keene Street  
 Columbia, Missouri 65201  
 (573) 874-8080 Fax (573) 443-0833

**INVOICE**

Invoice No: 6776

1-Feb-16

SOLD TO:

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

Customer No: 20220

Terms: 30 days

REFERENCE	DESCRIPTION	AMOUNT
	Wastewater Plant operating service for month of Feb-16  Base Fee	\$25,303.24
<b>TOTAL DUE</b>		<b>\$25,303.24</b>

**Alliance Water Resources, Inc.**

*Professional Water and Wastewater Operations*

206 South Keene Street

Columbia, Missouri 65201

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

**INVOICE**

Invoice No: 6813

Invoice Date: 31-Jan-16

Customer No: 20220

Terms: 30 days

SOLD TO:

Lake Ozark/Osage Beach Joint Utility Board

c/o Karri Bell

City of Osage Beach

1000 City Parkway

Osage Beach, MO 65065

REFERENCE	DESCRIPTION	AMOUNT
	Hauled waste payments for the month of Jan-16 22 Hauled waste loads @ \$50.00 each	\$1,100.00
TOTAL DUE		\$1,100.00

**Alliance Water Resources, Inc.**

*Professional Water and Wastewater Operations*  
208 South Keene Street  
Columbia, Missouri 65201  
(573) 874-8080 Fax (573) 443-0833

**INVOICE**

Invoice No: 6777

Invoice Date: 1-Feb-16

Customer No: 20220

Terms: 30 days

**SOLD TO:**

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

REFERENCE	DESCRIPTION	AMOUNT
	Denny's Dock Services, LLC - 1 Invoice 50%	\$62.50
TOTAL DUE		\$62.50

Denny's Dock Service, LLC.

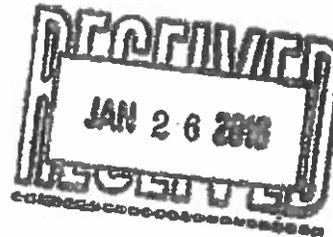
# Invoice

P.O. Box 1516  
Lake Ozark, MO 65049

Date	Invoice #
1/22/2016	1667

Phone #	573-964-0101
Fax #	573-964-0177

E-mail
dennysdocksvco@gmail.com



Bill To
Alliance Water

Terms
Due on receipt

Description	Qty	Rate	Amount
Weid cast iron fitting		125.00	125.00
<i>WELDING VOLUTE FOR PISTA GRIT</i>			
GL Acct#: <u>6705-20 \$62.50</u> <u>1220-20 \$6250</u> 4020 Signature: <u><i>[Signature]</i></u> Date: <u>1/28/16</u>			

<b>Total</b>	\$125.00
<b>Balance Due</b>	\$125.00

Any invoice amounts outstanding past 30 days will be subject to an 18% APR interest charge.

Jeffries Construction LLC

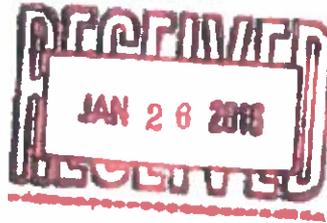
#3 Timber Trails Dr.  
 Brumley, MO 65017

# Invoice

Date	Invoice #
1/18/2016	2014-233

Bill To
Joint Sewer Board P.O. Box 1985 Lake Ozark Mo 65049

EMAILED TO KARRI 1/28/16



P.O. No.	Terms	Project
	Due on receipt	

Quantity	Description	Rate	Amount
	Labor and material to install doors at treatment plant. Up charge to prefinish doors.	1,530.00	1,530.00
	<i>E/R</i>	300.00	300.00
	<i>pd #1013</i>		
		<b>Total</b>	<b>\$1,830.00</b>

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

Account Number	Account Name	1/31/2016				Percent YTD
		2014 Actual	2015 Actual	2016 Budget	2016 Actual as of 1/31/2016	
3020	Osage Beach	464,343.06	477,172.03	473,000.00	39,219.93	8%
3010	Lake Ozark	85,716.93	72,827.98	77,000.00	6,613.41	9%
3100	Interest	31.18	54.79	45.00	6.72	12%
3060	Waste Haulers' Fee	34,340.00	32,400.00	35,000.00	2,200.00	7%
Total Operating Fund		584,431.17	582,454.80	585,045.00	48,040.06	8%
E/R Fund Income		1,025.06	884.81	1,000.00	59.62	7%
<b>TOTAL INCOME</b>		<b>585,456.23</b>	<b>583,339.61</b>	<b>586,045.00</b>	<b>48,099.68</b>	<b>8%</b>



**MONTH-TO-DATE AND YEAR-TO-DATE  
EXPENDITURE/BUDGET ANALYSIS  
1/31/2016**

Account Number	Account Name	2014 Actual	2015 Actual	2016 Budget	2015 Actual as of 1/31/2016	2015 January Expenses	Percent YTD
4000	Equipment Replace Fund	41,606.04	41,606.04	41,606.04	3,467.17	3,467.17	8%
4010	ERF Repayment	0.00	0.00	0.00	0.00	0.00	
4020	*Maintenance & Repair	58,873.44	31,014.36	114,500.00	489.45	489.45	2%
4140	Insurance	16,502.00	16,306.00	17,000.00	0.00	0.00	0%
4150	***Vehicle Repair/Maint	9,186.16	1,508.78	8,000.00	101.64	101.64	7%
4160	Haulers Fees to Contractor	8,000.00	8,000.00	8,000.00	0.00	0.00	0%
4170	Contract Management	288,445.08	296,233.08	305,120.00	25,303.24	25,303.24	9%
4185	Electric	70,366.40	76,751.19	77,000.00	4,412.83	4,412.83	6%
4200	Audit	1,900.00	2,000.00	2,100.00	0.00	0.00	0%
4220	Professional Service	43,038.41	2,369.99	15,000.00	0.00	0.00	0%
4240	Capital Purchases	0.00	0.00	82,000.00	0.00	0.00	0%
	<b>Totals</b>	<b>537,917.53</b>	<b>475,789.44</b>	<b>670,326.04</b>	<b>33,774.33</b>	<b>33,774.33</b>	<b>7%</b>
	<b>**E/R Expenses</b>	<b>9,429.93</b>	<b>1,869.72</b>	<b>25,500.00</b>	<b>1,830.00</b>	<b>1,830.00</b>	<b>98%</b>
	<b>TOTAL EXPENSES</b>	<b>547,347.46</b>	<b>477,659.16</b>	<b>695,826.04</b>	<b>35,604.33</b>	<b>35,604.33</b>	<b>7%</b>
	<b>**Equipment &amp; Replacement</b>						
	Normal E/R	10,000.00					
	Replace impellers for RAS pumps	8,500.00					
	Rebuild Arm Support Clarifier #2	5,000.00					
	Replace doors	2,000.00					
		<u>25,500.00</u>					
	<b>***Vehicle Repair/Maint</b>						
	Vehicle Maintenance	3,000.00					
	Tires for Sludge Truck	5,000.00					
		<u>8,000.00</u>					
	<b>*Maintenance &amp; Repair</b>						
	Auto Dieler Yrly Software Fee						500.00
	Hazardous Location Cooling Unit for UV Rm						5,000.00
	Normal Maintenance						8,000.00
	UV Spare Parts						8,000.00
	Rock for Road						2,000.00
	Strip and refinish tile in Admin Bldg						1,000.00
	#1 Aeration Basin grit removal						90,000.00
							<u>114,500.00</u>



**OPERATING FUND INCOME AND EXPENSE SUMMARY  
1/31/2016**

Beginning Balance	179,201.28
Income - Osage Beach	39,219.93
Income - Lake Ozark	6,613.41
Income - Other	0.00
Income - Waste Haulers' Fees	2,200.00
Interest - Checking	6.72
Income - CD Interest	0.00
Transfers From E/R Fund	0.00
Transfers to E/R fund	-3,467.17
Expenses	-30,307.16
Ending Fund Balance	193,467.01
NOW Account - Central Bank	193,467.01
Outstanding Checks:	0.00
Deposit in Transit:	0.00
	193,467.01

**EQUIPMENT REPLACEMENT FUND INCOME AND EXPENSE SUMMARY  
1/31/2016**

Beginning Balance	450,476.95
Interest - Checking	59.62
Income - CD Interest	241.16
Transfers From E/R Fund	0.00
Transfers to E/R Fund	3,467.17
Income - Miscellaneous	0.00
Expenses	-1,830.00
Ending Fund Balance	452,414.90
NOW Account - First Bank	153,243.64
CD Providence Bank, 10/16 #1268880	200,047.87
CD First Bank of the Lake, 01/17 #101318429	100,953.39
Deposit in Transit	0.00
Outstanding Checks:	-1,830.00
	452,414.90





P.O. Box 4500, Jefferson City, MO 65102  
(573) 348-2761

RETURN SERVICE REQUESTED

AV 01 016880 787768 45 A\*\*5DGT  
[Barcode]

LAKE OZARK OSAGE BEACH JOINT SEWER  
TREATMENT PLANT BOARD  
1000 CITY PKWY  
OSAGE BEACH MO 65065-3058

Period 01/01/2016 - 01/29/2016 Page 1 of 2

Web Address www.cbolobank.com

M

21 063910

**Your Financial Summary as of January 29, 2016**

	Bank Deposits	Totals
Bank Deposit Accounts:		
Checking	\$ 193,467.01	
Bank Deposit Total		\$ 193,467.01
Total Assets:	\$ 193,467.01	\$ 193,467.01

**Details: Application of Assets, Balances, and Other Assets**

		Beginning Balance December 31, 2015					
				\$		179,201.28	
<b>Deposits</b>							
Jan. 15	Deposit					6,613.41	
Jan. 15	Deposit					39,219.93	
Jan. 27	Deposit					2,200.00	
Jan. 29	Interest Earned					6.72	
				Total		+\$ 48,040.06	
<b>Checks</b>							
Check No.	Date Paid	Amount	Check No.	Date Paid	Amount		
3482	Jan. 27	4,412.83	3484	Jan. 26	25,303.24		
3493	Jan. 26	3,467.17	3495	Jan. 26	581.09		
				Total		-\$ 33,774.33	
				Ending Balance January 29, 2016		\$ 193,467.01	

Number of days since last statement/interest cycle **31**  
 Beginning and ending dates for calculation of statement/interest cycle are **01/01/2016 through 01/31/2016**  
 Average collected balance **198,231.00**  
 Interest rate **0.04%**  
 Annual percentage yield earned **0.04%**  
 Interest earned previous year **54.79**

End of Bank Deposits

Operating Fund

CHECK REGISTER - JOINT SEWER BOARD OPERATION FUND

	reconciled balance 8/31/15				145,118.13
3469	Equipment Replacement Fund	X	3,467.17		141,650.96
3470	Alliance Water Resources, Inc.	X	24,686.09		116,964.87
3471	Alliance Water Resources, Inc.	X	323.35		116,641.52
3473	Lake Sun Leader	X	236.25		116,405.27
3474	Ameren MO	X	10,806.53	-	105,598.74
	Deposit	X		100.00	105,698.74
	Deposit LO	X	-	6,442.00	112,140.74
	Deposit OB	X		39,391.33	151,532.07
	Deposit	X		3,100.00	154,632.07
	Interest	X		5.10	154,637.17
	reconciled balance 9/30/15				154,637.17
3472	Zerger & Mauer LLP	X	591.50		154,045.67
3475	Ameren MO	X	5,584.64		148,461.03
3476	Equipment Replacement Fund	X	3,467.17		144,993.86
3477	Alliance Water Resources, Inc.	X	24,686.09		120,307.77
3478	Alliance Water Resources, Inc.	X	360.70	-	119,947.07
3480	Road Runners LLC	X	1,170.00	-	118,777.07
	Deposit LO	X	-	5,689.76	124,466.83
	Deposit OB	X		40,143.58	164,610.41
	Deposit	X		2,200.00	166,810.41
	Interest	X		5.48	166,815.89
	reconciled balance 10/31/15				166,815.89
3479	Mission Communications LLC	X	347.40		166,468.49
3481	Ameren MO	X	4,620.28		161,848.21
3482	Equipment Replacement Fund	X	3,467.17		158,381.04
3483	Alliance Water Resources, Inc.	X	24,686.09		133,694.95
3484	Alliance Water Resources, Inc.	X	683.11	-	133,011.84
3485	CCIMW	X	10,747.00	-	122,264.84
	Deposit LO	X	-	6,025.92	128,290.76
	Deposit OB	X		39,807.41	168,098.17
	Deposit	X		700.00	168,798.17
	Interest	X		5.77	168,803.94
	reconciled balance 11/30/15				168,803.94
3486	Zerger & Mauer LLP	X	1,778.49		167,025.45
3487	Ameren MO	X	4,555.96		162,469.49
3488	Equipment Replacement Fund	X	3,467.17		159,002.32
3489	Alliance Water Resources, Inc.	X	24,686.09		134,316.23
3490	Evans Enterprises, Inc	X	2,532.01	-	131,784.22
3491	Alliance Water Resources, Inc.	X	1,721.95	-	130,062.27
	Deposit LO	X	-	5,768.15	135,830.42
	Deposit OB	X		40,065.19	175,895.61
	Deposit	X		1,200.00	177,095.61
	Deposit	X		2,100.00	179,195.61
	Interest	X		5.67	179,201.28
	reconciled balance 12/31/15				179,201.28
3492	Ameren MO	X	4,412.83		174,788.45
3493	Equipment Replacement Fund	X	3,467.17		171,321.28
3494	Alliance Water Resources, Inc.	X	25,303.24		146,018.04
3495	Alliance Water Resources, Inc.	X	591.09		145,426.95
	Deposit LO	X	-	6,613.41	152,040.36
	Deposit OB	X		39,219.93	191,260.29
	Deposit	X		2,200.00	193,460.29
	Interest	X		6.72	193,467.01
	reconciled balance 1/31/16				193,467.01



4558 Osage Beach Pkwy, Suite 100  
 Osage Beach, MO 65065  
 (573) 348-2285

536 00010 26  
 ACCOUNT:  
 DOCUMENTS:

PAGE: 1  
 01/29/2016

1

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LAKE OZARK-OSAGE BEACH JOINT SEWER TREAT  
 SEWER BD.-TREATMENT PLANT BD.  
 1000 CITY PKWY  
 OSAGE BEACH MO 65065-3058

The following service charge increases will be effective February 1, 2016  
 Money Market monthly fee & excessive withdrawal fee increases to \$10 ea.,  
 Savings monthly fee increases to \$2ea and excessive withdrawals to \$1 ea.  
 and Foreign ATM fee increases to \$2.

BUSINESS MMDA ACCOUNT

LAST STATEMENT 12/31/15 149,716.85  
 2 CREDITS 3,526.79  
 DEBITS .00  
 THIS STATEMENT 01/29/16 153,243.64

REF #.....DATE.....AMOUNT REF #.....DATE.....AMOUNT REF #.....DATE.....AMOUNT  
 01/25 3,467.17

OTHER CREDITS

DESCRIPTION DATE AMOUNT  
 INTEREST 01/29 59.62

I N T E R E S T

AVERAGE LEDGER BALANCE: 150,314.63 INTEREST EARNED: 59.62  
 AVERAGE AVAILABLE BALANCE: 150,075.52 DAYS IN PERIOD: 29  
 INTEREST PAID THIS PERIOD: 59.62 ANNUAL PERCENTAGE YIELD EARNED: .50%  
 INTEREST PAID 2016: 59.62  
 INTEREST PAID 2015: 613.63

\*\*\* CONTINUED \*\*\*



JSB - CHECK REGISTERS 2016

**CHECK REGISTER - JOINT SEWER BOARD EQUIPMENT REPLACEMENT FUND**

				<b>reconciled balance 1/31/15</b>	<b>122,176.28</b>
	Deposit	X		3,467.17	125,643.45
	Interest	X		18.78	125,662.23
				<b>reconciled balance 2/28/15</b>	<b>125,662.23</b>
	Deposit	X		3,467.17	129,129.40
	Interest	X		53.45	129,182.85
				<b>reconciled balance 3/31/15</b>	<b>129,182.85</b>
	Deposit	X		3,467.17	132,650.02
	Interest	X		53.23	132,703.25
				<b>reconciled balance 4/30/15</b>	<b>132,703.25</b>
	Deposit	X		3,467.17	136,170.42
	Interest	X		52.91	136,223.33
				<b>reconciled balance 5/31/15</b>	<b>136,223.33</b>
	Deposit	X		3,467.17	139,690.50
	Interest	X		60.28	139,750.78
				<b>reconciled balance 6/30/15</b>	<b>139,750.78</b>
	Interest	X		59.19	139,809.97
1009	Check	X	221.10		139,588.87
1010	Check	X	9,322.33		130,266.54
	Deposit	X		3,467.17	133,733.71
				<b>reconciled balance 7/31/15</b>	<b>133,733.71</b>
	Interest	X		57.16	133,790.87
1011	Check	X	2,850.00		130,940.87
	Deposit	X		2,850.00	133,790.87
	Deposit	X		3,467.17	137,258.04
				<b>reconciled balance 8/31/15</b>	<b>137,258.04</b>
	Interest	X		57.02	137,315.06
	Deposit	X		3,467.17	140,782.23
				<b>reconciled balance 9/30/15</b>	<b>140,782.23</b>
	Interest	X		57.89	140,840.12
1012	Check	X	1,648.62		139,191.50
	Deposit	X		3,467.17	142,658.67
				<b>reconciled balance 10/31/15</b>	<b>142,658.67</b>
	Interest	X		61.10	142,719.77
	Deposit	X		3,467.17	146,186.94
				<b>reconciled balance 11/30/15</b>	<b>146,186.94</b>
	Interest	X		62.74	146,249.68
	Deposit	X		3,467.17	149,716.85
				<b>reconciled balance 12/31/15</b>	<b>149,716.85</b>
	Interest	X		59.62	149,776.47
	Deposit	X		3,467.17	153,243.64
				<b>reconciled balance 1/31/16</b>	<b>153,243.64</b>

**WATER RESOURCES®**  
**Alliance**  
Professional Water and Wastewater Operations

**OPERATING  
DIVISIONS**

*MISSOURI*

Atchison County  
Bonne Terre  
Boonville  
Bowling Green  
Buchanan County #1  
Cameron  
Cape Girardeau  
Carroll County #1  
Craig  
East Central Missouri  
Water & Sewer  
Authority  
Elsberry  
Fayette  
Franklin County #1  
Franklin County #3  
Henry County  
Water Company  
Henry County #3  
Lake Ozark/  
Osage Beach  
Lincoln County #1  
Neosho  
Nevada  
Parkville  
Phelps County #2  
Platte County #C-1  
Proctor & Gamble  
Ralls County #1  
Russellville  
Sedalia  
St Charles County #2  
St Genevieve  
Versailles

*IOWA*

Maquoketa  
Tipton

*TENNESSEE*

South Fulton

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

**Month of January 2016**

Submitted by Alliance Water Resources, Inc. for the

February 2016

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-01013241. 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	2.6	3.0	NA	0		0.03	<5.0	< 0.010
Peak Day	3.2	3.2	7.9	0		0.04	<5.0	< 0.010
Percent Removal	98.7	98.7	NA	NA		NA	NA	NA

## 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		2.7	10	4.0
Weekly Average	45	45		630				
Daily Max						10.6	15	8.1

## PLANT HYDRAULIC AND ORGANIC LOADING

The average daily influent flow for the month was 0.987 MGD or 33% of Permitted flow with Lake Ozark contributing 13% of the total flow and Osage Beach contributing 87%. 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 49326 pounds of BOD.

## BIOSOLIDS APPLICATION AND INVENTORY

Plant personnel land applied 0 tanker loads of bio-solids during the month equivalent to a total of 0 gallons and 0 pounds dry weight solids.

0 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 512,500 gallons with a level of 5.0 feet in Tank 1 and 5.0 feet in Tank 2.

## WASTEHAULERS

The plant received 22 loads of septage during the month totaling 55,000 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 shut down Clarifier #3 on the 9<sup>th</sup> of January due to the cold weather possibly freezing it up and also for annual maintenance when weather permits.
- We came in on the 11<sup>th</sup> of January and noticed the pista grit system had sprung a couple leaks in the cyclone and in the pump volute. We took it apart and took the volute to a machine shop with a kiln to have it welded up and the cyclone to another shop to have it rebuilt. We have received the cyclone back but are still waiting on the volute to be returned.
- Jefferies Construction was here on the 14<sup>th</sup> of January to install the three fiberglass doors that were approved at the September 2015 board meeting and they did a good job.
- On the 17<sup>th</sup> we noticed that bar screen #1 was not operating correctly, so we troubleshot it and found that the motor starter and heater coils were bad. We have ordered the parts, but have been put on back order and should be receiving them any day.

## SAFETY

- We conducted our monthly routine Safety Meeting on Proper Protective Equipment on the 12<sup>th</sup> of January.

## REGULATORY AGENCY, INSPECTION AND REPORTS

- We filled out the EDMR on MDNR website on the 5<sup>th</sup> of February.
- We completed and mailed copies of our annual S1 Sludge report to EPA and MDNR on the 21<sup>st</sup> of January.

## MISCELLANEOUS AND RECOMMENDATIONS

- We would like to Thank Matt and the City of Lake Ozark for sending out their snow plow to clear the road and parking lot during the snow events this past month. Many Thanks!

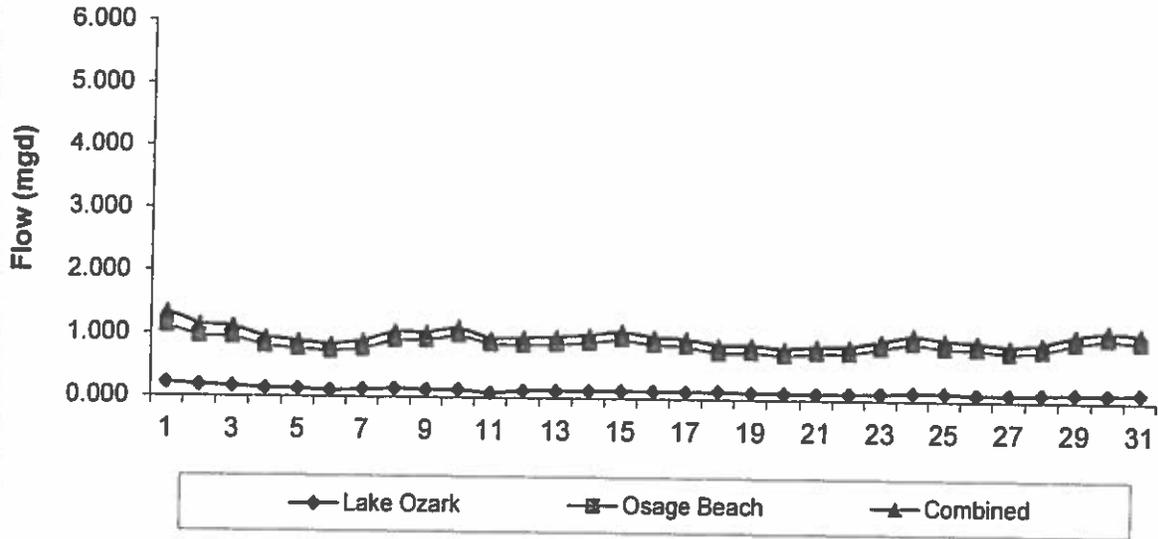
**TABLE A  
LAKE OZARK/OSAGE BEACH WWTP**

MONTH OF January 2016

DATE	RAIN FALL IN.	FLOW					BOD 5 MG/L			TSS MG/L		
		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-Jan	0	0.229	1.119	1.348	17.0	83.0						
2-Jan	0	<b>0.187</b>	<b>0.960</b>	<b>1.147</b>	<b>16.3</b>	<b>83.7</b>						
3-Jan	0	<b>0.171</b>	<b>0.951</b>	<b>1.122</b>	<b>15.2</b>	<b>84.8</b>						
4-Jan	0	0.139	0.809	0.948	14.7	85.3						
5-Jan	0	0.130	0.760	0.890	14.6	85.4						
6-Jan	0	0.108	0.727	0.835	12.9	87.1						
7-Jan	0	0.124	0.770	0.894	13.9	86.1						
8-Jan	0.4	0.140	0.911	1.051	13.3	86.7	218	193	213	166	162	246
9-Jan	0.2	<b>0.127</b>	<b>0.907</b>	<b>1.034</b>	<b>12.3</b>	<b>87.7</b>						
10-Jan	0	<b>0.130</b>	<b>0.993</b>	<b>1.123</b>	<b>11.6</b>	<b>88.4</b>						
11-Jan	0	0.083	0.855	0.938	8.8	91.2						
12-Jan	0	0.120	0.843	0.963	12.5	87.5						
13-Jan	0	0.123	0.855	0.978	12.6	87.4						
14-Jan	0	0.124	0.885	1.009	12.3	87.7						
15-Jan	0	0.128	0.947	1.075	11.9	88.1	203	193	185	138	182	220
16-Jan	0	0.124	0.859	0.983	12.6	87.4						
17-Jan	0.1	0.120	0.846	0.966	12.4	87.6						
18-Jan	0	0.129	0.739	0.868	14.9	85.1						
19-Jan	0	0.117	0.758	0.875	13.4	86.6						
20-Jan	0.1	0.110	0.709	0.819	13.4	86.6						
21-Jan	0	0.105	0.753	0.858	12.2	87.8						
22-Jan	0	0.112	0.749	0.861	13.0	87.0	193	173	170	110	180	194
23-Jan	0	<b>0.115</b>	<b>0.837</b>	<b>0.952</b>	<b>12.1</b>	<b>87.9</b>						
24-Jan	0	<b>0.131</b>	<b>0.921</b>	<b>1.052</b>	<b>12.5</b>	<b>87.5</b>						
25-Jan	0	0.132	0.842	0.974	13.6	86.4						
26-Jan	0	0.110	0.834	0.944	11.7	88.3						
27-Jan	0	0.110	0.770	0.880	12.5	87.5						
28-Jan	0	0.124	0.807	0.931	13.3	86.7						
29-Jan	0	0.132	0.935	1.067	12.4	87.6	143	200	205	96	226	252
30-Jan	0	<b>0.128</b>	<b>1.005</b>	<b>1.133</b>	<b>11.3</b>	<b>88.7</b>						
31-Jan	0	<b>0.139</b>	<b>0.948</b>	<b>1.087</b>	<b>12.8</b>	<b>87.2</b>						
SUM	0.8	4.001	26.604	30.605								
AVG		0.129	0.858	0.987	13	87	189	190	193	128	188	228

NOTE: BOLD PRINT INDICATES WEEKEND DAYS

Daily Flow  
Figure 1



Effect of Rainfall on Flow  
Figure 2

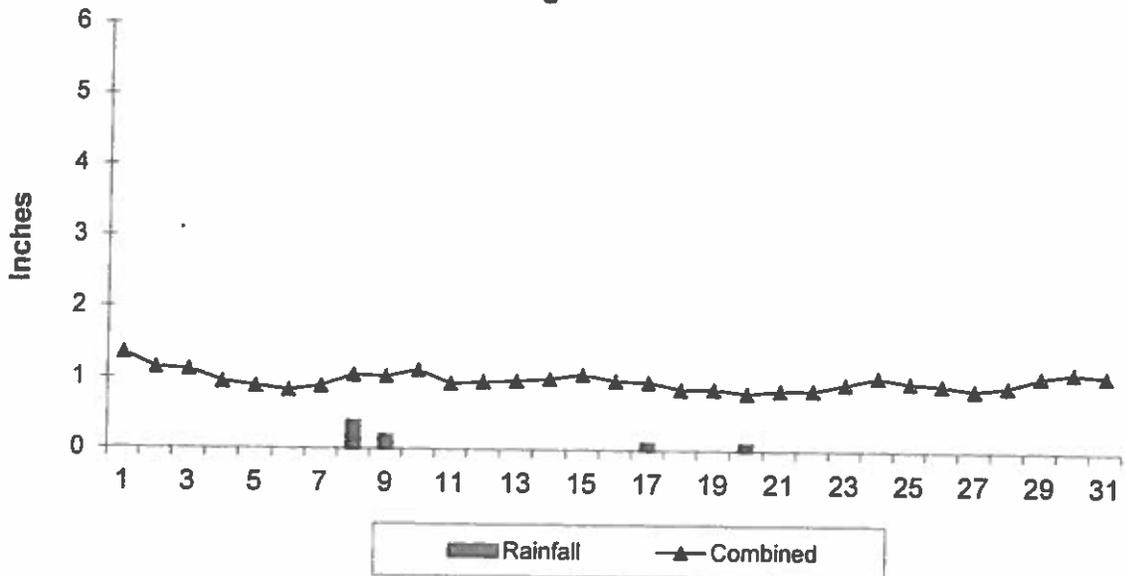


TABLE B  
JOINT SEWER BOARD  
Monthly Flows

<u>2014</u>	<u>RAINFALL</u>	<u>OSAGE BEACH</u>		<u>LAKE OZARK</u>		<u>TOTAL</u>	<u>%</u>
January	3.0	19,229,000	81%	4,634,000	19%	23,863,000	100%
February	1.3	18,444,000	82%	4,114,000	18%	22,558,000	100%
March	1.2	28,731,000	85%	5,061,000	15%	33,792,000	100%
April	5.1	33,479,000	84%	6,515,000	16%	39,994,000	100%
May	4.7	41,054,000	85%	7,129,000	15%	48,183,000	100%
June	5.1	50,416,000	86%	8,342,000	14%	58,758,000	100%
July	3.1	59,089,000	87%	9,059,000	13%	68,148,000	100%
August	2.9	54,624,000	87%	8,228,000	13%	62,852,000	100%
September	3.4	40,316,000	86%	6,735,000	14%	47,051,000	100%
October	7.9	41,322,000	86%	6,659,000	14%	47,981,000	100%
November	1.6	29,315,000	87%	4,506,000	13%	33,821,000	100%
December	2.6	31,534,000	88%	4,204,000	12%	35,738,000	100%
	41.7	447,553,000	85%	75,186,000	15%	522,739,000	100%

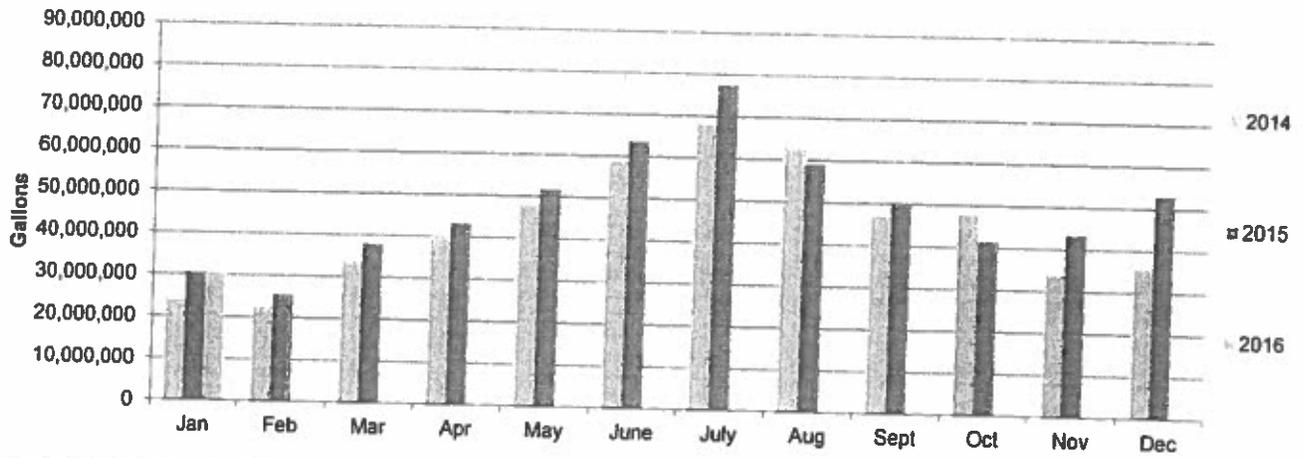
  

<u>2015</u>	<u>RAINFALL</u>	<u>OSAGE BEACH</u>		<u>LAKE OZARK</u>		<u>TOTAL</u>	<u>%</u>
January	0.9	26,319,000	87%	4,085,000	13%	30,404,000	100%
February	1.4	21,892,000	86%	3,465,000	14%	25,357,000	100%
March	4.5	32,996,000	87%	4,920,000	13%	37,916,000	100%
April	4.0	37,220,000	86%	5,945,000	14%	43,165,000	100%
May	7.2	44,456,000	86%	7,209,000	14%	51,665,000	100%
June	7.1	54,745,000	86%	8,769,000	14%	63,514,000	100%
July	9.7	66,474,000	86%	10,871,000	14%	77,345,000	100%
August	3.5	51,695,000	88%	7,327,000	12%	59,022,000	100%
September	3.1	43,144,000	87%	6,531,000	13%	49,675,000	100%
October	1.8	36,230,000	87%	5,216,000	13%	41,446,000	100%
November	10.8	37,047,000	86%	6,247,000	14%	43,294,000	100%
December	11.7	44,392,000	84%	8,603,000	16%	52,995,000	100%
	65.7	496,610,000	87%	79,188,000	13%	575,798,000	100%

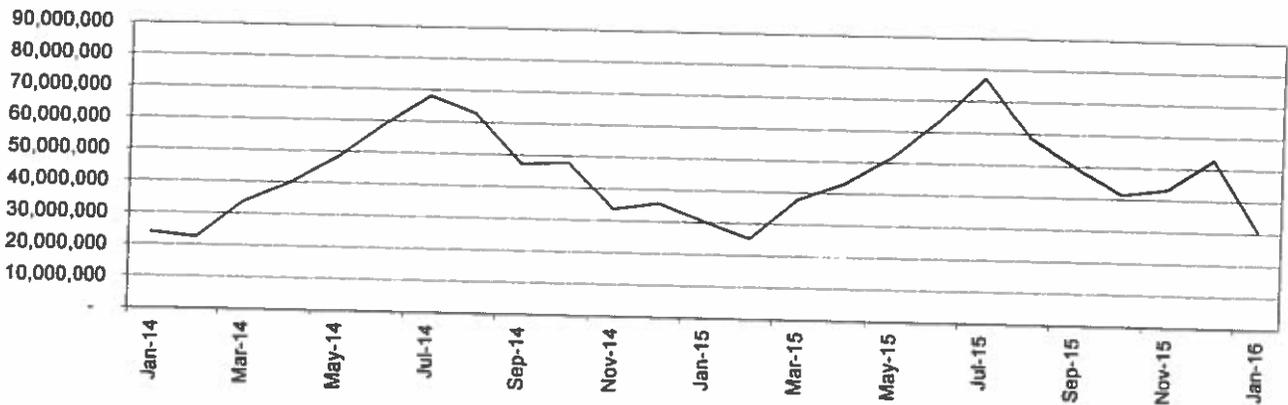
  

<u>2016</u>	<u>RAINFALL</u>	<u>OSAGE BEACH</u>		<u>LAKE OZARK</u>		<u>TOTAL</u>	<u>%</u>
January	0.8	26,604,000	87%	4,001,000	13%	30,605,000	100%
February							
March							
April							
May							
June							
July							
August							
September							
October							
November							
December							
	0.8	26,604,000	87%	4,001,000	13%	30,605,000	100%

Monthly Influent Flow  
Figure 3A

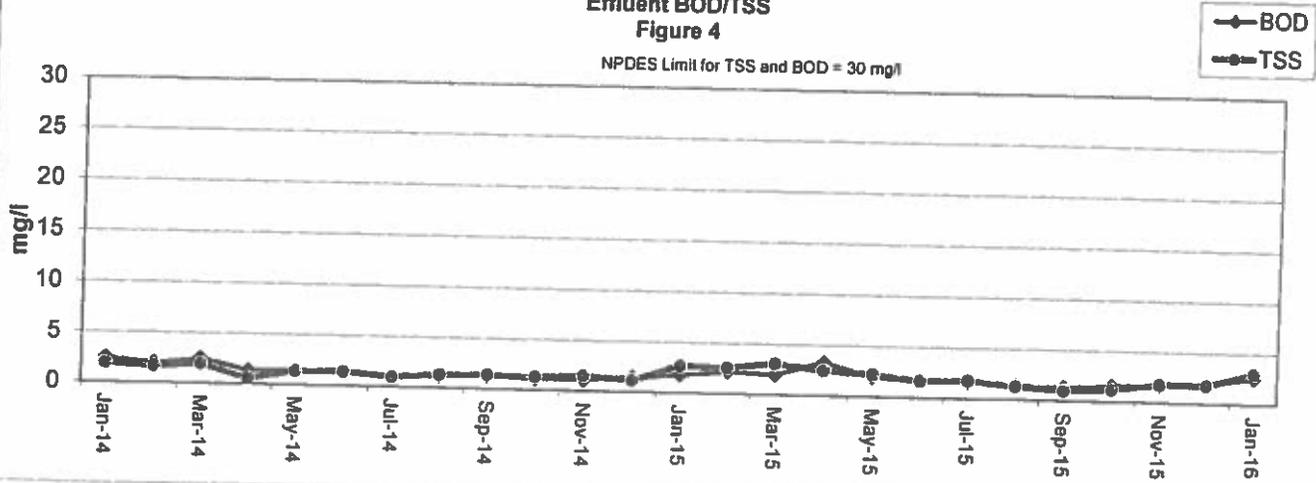


Monthly Influent Flow  
Figure 3B

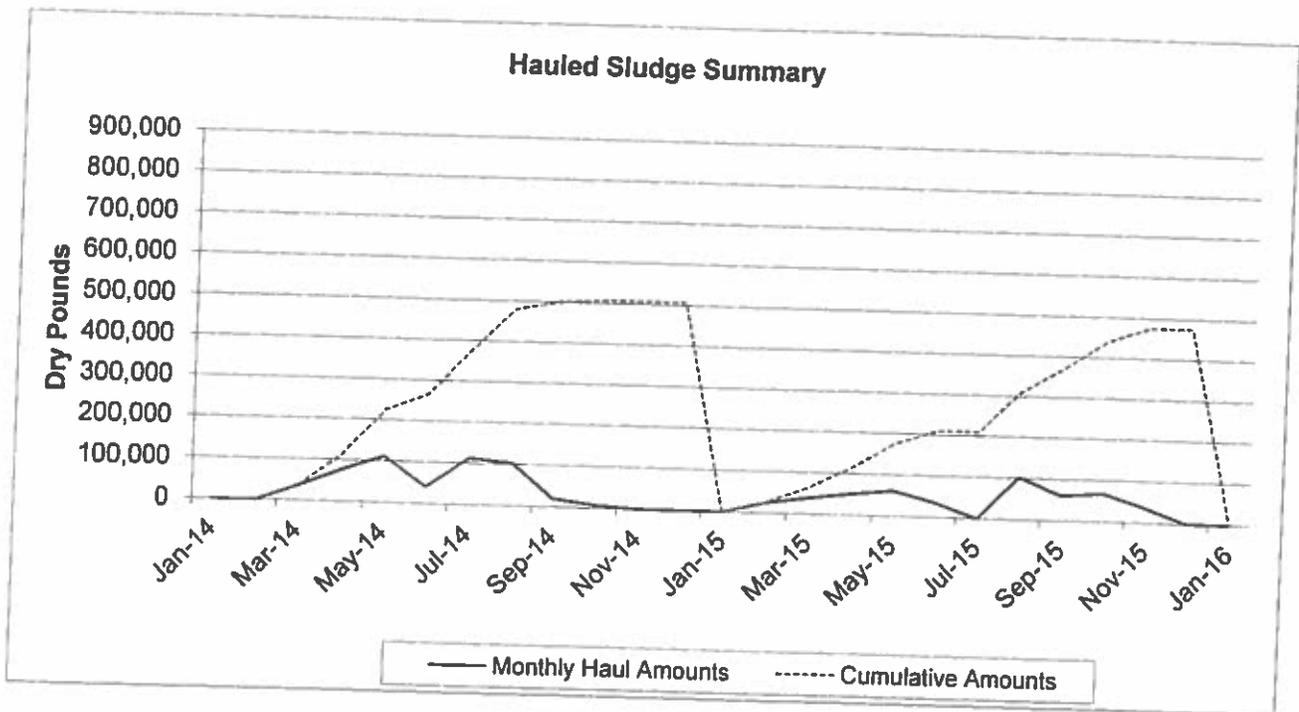
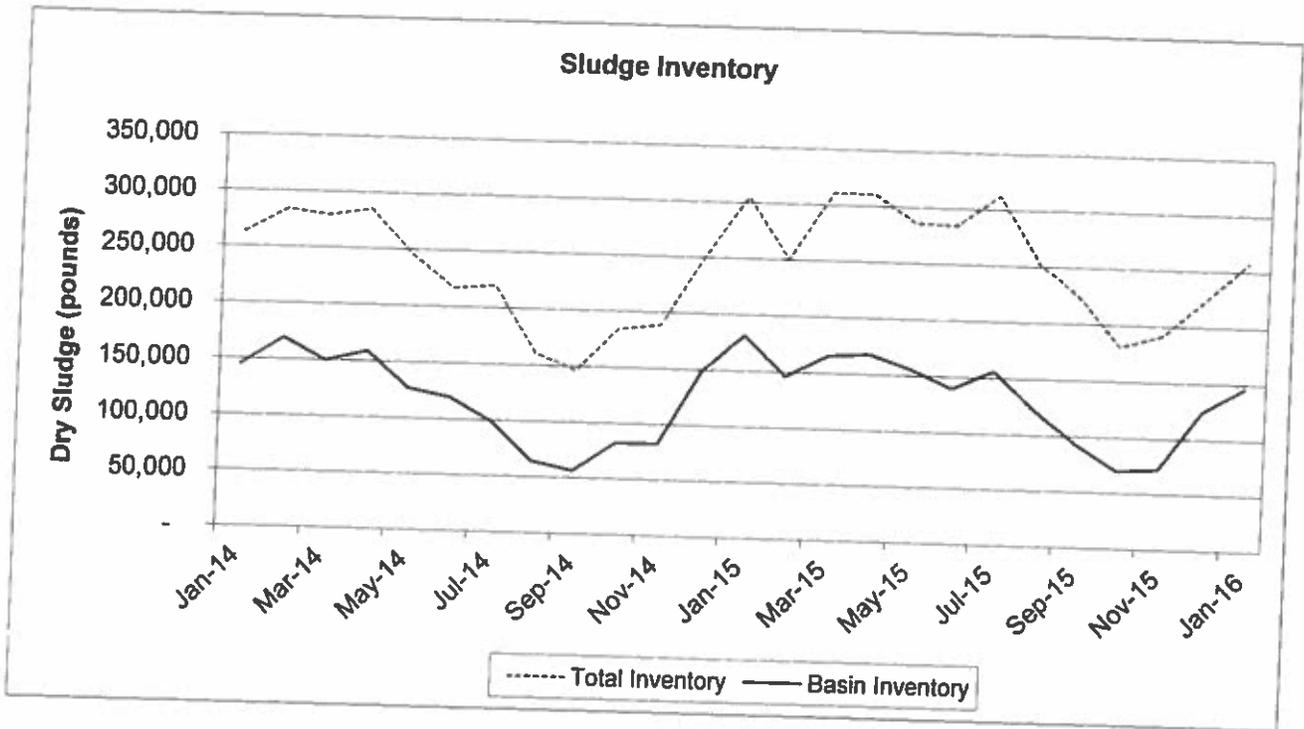


Effluent BOD/TSS  
Figure 4

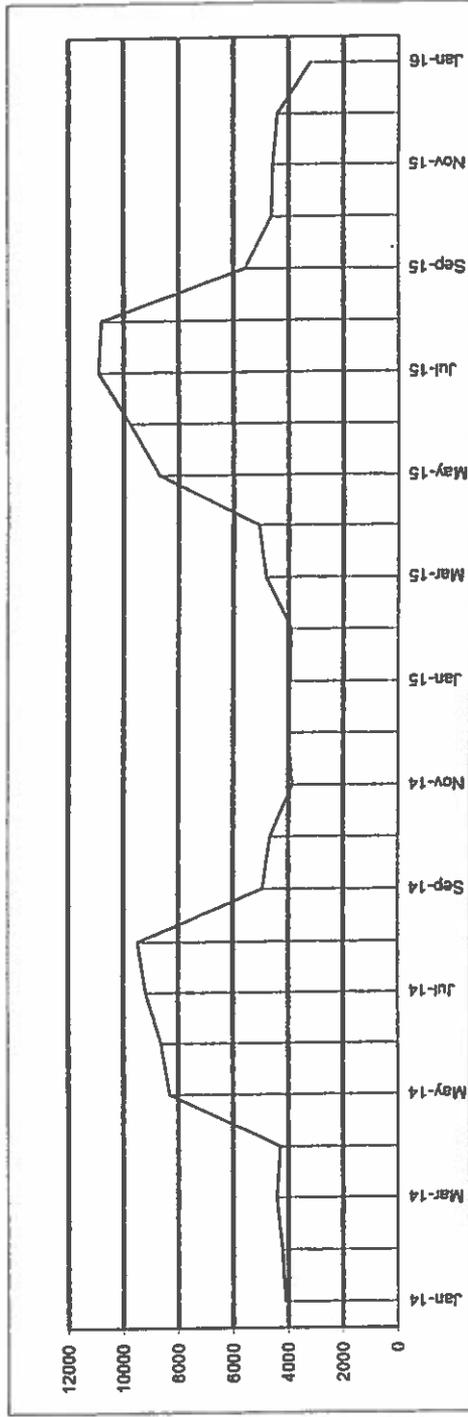
NPDES Limit for TSS and BOD = 30 mg/l



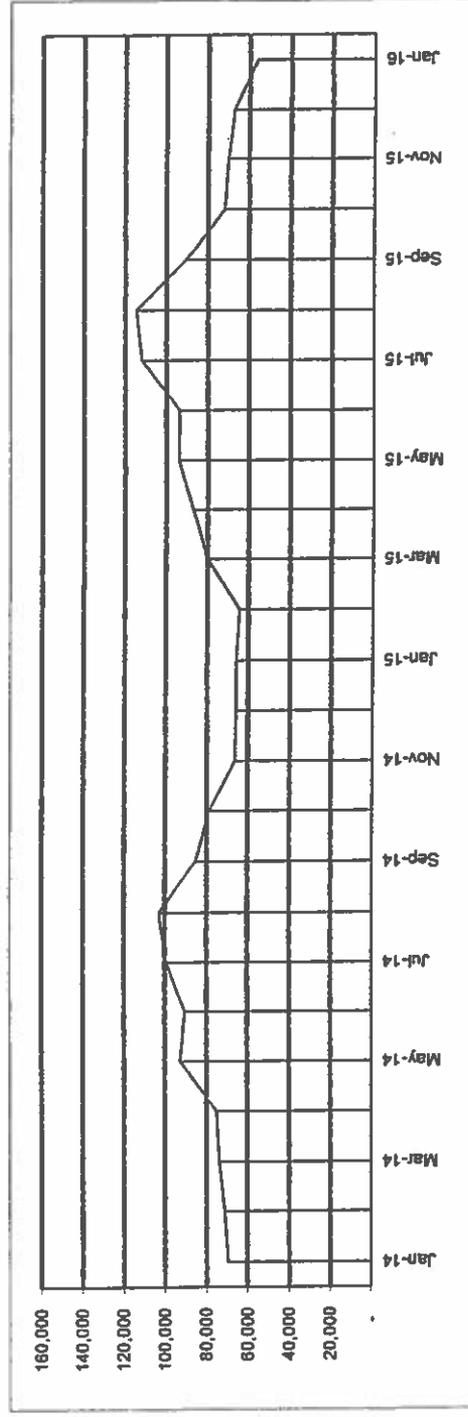
Date	Loads	Hauled Sludge		Annual Cumulative # Dry	Basin Depths		Blairtel Depths		MLSS Inventory		Blairtel and MLSS Inventory		MLSS % Solids	Total Dry Sludge Inventory	Accepted Septage Loads	Septage Gallons
		# Dry	% Solids		Tank #1	Tank #2	Clarr #1	Clarr #2	MLSS AB #1	MLSS AB #2	Gallons	# Dry				
Jan-14	0	-	0	-	4.0	5.0	2.0	2.5	3,690	3,980	3,679,929	117,392	0.00363	262,633	22	54,500
Feb-14	0	-	0	-	5.0	5.5	1.5	2.5	3,410	4,030	3,671,048	113,894	0.00372	283,341	8	15,000
Mar-14	29	107,300	35,703	35,703	5.0	5.0	0.5	0.5	4,270	4,230	3,639,478	129,001	0.00425	278,734	35	90,500
Apr-14	65	240,500	77,176	112,879	7.5	3.5	1.5	1.0	4,420	3,710	3,709,547	125,761	0.00407	284,608	30	75,000
May-14	96	355,200	111,613	224,492	5.5	3.5	1.0	2.0	3,550	4,040	3,740,142	118,377	0.0038	245,639	24	60,000
Jun-14	41	151,700	40,455	264,947	4.5	5.5	3.0	2.0	3,530	2,630	3,775,666	98,866	0.00368	216,991	26	61,000
Jul-14	117	432,900	112,292	377,239	6.5	2.0	0.0	1.5	4,030	3,610	3,790,595	120,445	0.00382	219,664	44	111,500
Aug-14	107	395,900	102,973	480,212	5.5	0.0	1.0	1.0	3,890	2,840	3,670,071	89,989	0.00317	181,464	55	129,000
Sep-14	17	62,900	19,811	500,023	2.5	1.5	0.0	1.5	2,670	3,210	3,713,499	102,358	0.00331	184,927	37	92,500
Oct-14	5	18,500	6,786	506,812	4.0	1.0	0.0	1.0	2,980	3,330	3,678,952	106,775	0.00348	189,341	20	50,000
Nov-14	0	-	0	506,812	4.0	1.0	0.0	2.0	3,490	3,060	3,722,380	101,516	0.00327	250,135	18	40,000
Dec-14	0	-	0	506,812	5.5	5.5	0.0	2.0	3,900	4,160	3,671,048	123,365	0.00403	305,030	22	55,000
Jan-15	0	-	0	506,812	6.0	4.0	1.0	1.0	3,590	3,290	3,635,524	104,150	0.00344	250,516	21	52,500
Feb-15	20	74,000	24,069	520,881	5.5	6.5	1.0	2.0	5,040	4,250	3,740,142	144,890	0.00465	310,595	11	27,500
Mar-15	34	125,000	36,903	557,784	6.0	6.0	2.5	2.0	5,160	4,000	3,723,357	142,532	0.00459	310,393	23	57,500
Apr-15	44	182,800	50,607	608,391	5.5	6.5	1.5	2.0	4,630	4,110	3,835,878	130,204	0.00407	288,049	26	65,000
May-15	55	203,500	61,284	669,675	5.5	6.0	1.5	2.0	4,630	4,550	3,783,570	144,837	0.00459	284,798	37	92,500
Jun-15	35	129,500	35,024	704,699	8.0	3.5	1.0	1.0	5,470	4,660	3,698,714	156,157	0.00507	312,282	42	104,000
Jul-15	0	-	0	704,699	6.5	6.5	0.5	1.0	4,170	4,400	3,648,357	130,533	0.00429	252,693	44	110,000
Aug-15	107	395,900	102,356	807,055	5.5	1.5	1.0	1.0	4,490	3,570	3,678,952	130,400	0.00425	223,925	32	80,000
Sep-15	55	203,500	60,420	867,475	4.0	1.0	1.0	1.0	3,310	3,920	3,678,952	110,917	0.00362	180,852	22	55,000
Oct-15	59	218,300	67,949	935,424	3.0	2.0	1.0	3.0	3,440	4,430	3,714,476	118,803	0.00384	191,237	19	47,500
Nov-15	30	111,000	35,734	971,158	4.5	4.0	2.0	0.5	4,460	1,940	3,709,547	99,000	0.00332	223,412	21	52,500
Dec-15	0	-	0	971,158	5.0	5.0	0.5	0.5	3,760	3,610	3,617,762	111,184	0.00369	257,551	22	55,000
Jan-16	0	-	0	971,158												



## Electric Cost



## Kilowatts Used



Electric Cost Kilowatts Used

Jan-14	4116	69,690
Feb-14	4226	71,330
Mar-14	4427	73,840
Apr-14	4297	75,240
May-14	6325	92,580
Jun-14	8643	90,400
Jul-14	9200	99,540
Aug-14	9483	103,070
Sep-14	4953	85,380
Oct-14	4663	78,920
Nov-14	3884	66,400
Dec-14	4009	66,040
Jan-15	3947	65,860
Feb-15	3901	64,300
Mar-15	4821	80,190
Apr-15	5084	87,050
May-15	8707	93,810
Jun-15	9772	93,490
Jul-15	10912	112,040
Aug-15	10807	114,770
Sep-15	5585	90,520
Oct-15	4620	71,940
Nov-15	4556	70,170
Dec-15	4413	67,300
Jan-16	3223	56,290



**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							
Jan-16		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	7.5			11.1	2.021	7.6				7.5		8.6		
2	7.4			11.4	1.771	7.7				7.4		8.4		
3	7.6			10.4	1.735	7.7				6.9		8.8		
4	7.4			10.6	1.555	7.7				6.8		7.9		
5	7.4			10.8	1.553	7.7				6.8		7.8		
6	7.4			10.8	1.385	7.8				7.5		8.1		
7	7.3			11.1	1.543	7.8			0.02	7.2		8.5		
8	7.3	213	246	11.8	1.712	7.7	2.1	2.6		6.7		9.6	99.0	98.9
9	7.4			10.6	1.583	7.7				6.7		8.6		
10	7.5			9.0	1.937	7.9				7.6		5.8		
11	7.5			9.4	1.618	7.8				7.8		6.6		
12	7.4			9.5	1.624	7.7				7.6		7.0		
13	7.4			9.5	1.579	7.8				7.8		6.6		
14	7.4			11.2	1.673	7.7			0.02	7.3		7.7		
15	7.5	185	220	10.5	1.613	7.8	2.3	3.0		6.9		8.8	98.8	98.6
16	7.5			9.6	1.551	7.7				7.2		7.6		
17	7.3			9.0	1.607	7.8				7.6		6.2		
18	7.4			8.8	1.566	7.8				8.3		4.6		
19	7.4			8.9	1.563	7.8				8.0		5.4		
20	7.4			9.4	1.458	7.8				8.3		5.3		
21	7.4			7.9	1.539	7.7			0.02	8.0		5.2		
22	7.4	170	194	8.5	1.572	7.7	2.6	3.0		8.2		5.5	98.5	98.5
23	7.1			9.5	1.568	7.7				8.3		5.6		
24	7.5			8.4	1.737	7.8				8.8		5.5		
25	7.4			10.1	1.604	7.6				6.8		7.4		
26	7.4			9.1	1.538	7.7				6.7		7.3		
27	7.5			8.8	1.453	7.7				7.1		6.6		
28	7.5			9.3	1.560	7.7			0.04	6.5		7.5		
29	7.5	205	252	9.3	1.656	7.7	3.2	3.2		6.9		7.9	98.4	98.7
30	7.4			10.7	1.638	7.6				6.8		8.4		
31	7.4			10.6	1.640	7.8				7.0		8.9		
Total					50.152									
Avg		193	228	9.9	1.618		2.6	3.0	0.03	7.4	0.0	7.2	98.7	98.7
Min	7.1	170	194	7.9	1.385	7.6	2.1	2.6	0.02	6.5	0.0	4.6	98.4	98.5
Max	7.6	213	252	11.8	2.021	7.9	3.2	3.2	0.04	8.8	0.0	9.6	99.0	98.9

MONTHLY EFFLUENT MONITORING		QUARTERLY EFFLUENT MONITORING	
DATE	Oil & Grease mg/L	Selenium µg/L	Zinc µg/L
1			
2			
3			
4	< 5.0	< 0.010	0.022
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			
31			
Total			
Avg	< 5.0	< 0.010	0.022
Min	< 5.0	< 0.010	0.022
Max	< 5.0	< 0.010	0.022

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

DATE	SLUDGE DISP. LBS. DRY WEIGHT	#1 Aeration Basin, O-Ditch, Etc.				#2 Aeration Basin, O-Ditch, Etc.				*Weather Conditions		
		MIXED LIQUOR				MIXED LIQUOR				*Outside Ambient Temp °F	*RAIN Inches	Time
		* DO mg/l	** MLSS mg/l	*Settleability		* DO mg/l	** MLSS mg/l	*Settleability				
				*30 min ml	Temp °C			*30 min ml	Temp °C			
1		3.2	3,900	420	9	6.8	2,550	250	8.8	29	0	7:30
2		3.4	3,580	370	8.7	5.0	3,650	390	8.7	31	0	7:30
3		4.0	3,390	360	8.7	3.8	3,640	440	8.7	28	0	7:30
4		3.3	3,380	380	8.3	3.8	3,720	400	8.2	30	0	7:30
5		3.3	3,490	400	7.7	3.4	3,460	540	8	23	0	7:30
6		4.7	3,550	330	7.5	4.3	4,010	450	8	30	0	7:30
7		3.6	3,660	430	8.7	3.9	3,630	400	8.8	44	0	7:30
8		1.8	4,210	450	10	2.7	3,620	380	10	47	0.4	7:30
9		2.3	3,990	480	8.9	4.2	3,410	360	9.5	36	0.2	7:30
10		5.1	3,480	400	6.8	5.1	3,990	480	7.4	10	0	7:30
11		6.3	3,220	320	6.9	5.0	4,320	700	7.0	26	0	7:30
12		5.2	3,830	500	6.8	5.0	3,660	550	7.2	36	0	7:30
13		5.2	3,680	380	6.4	5.1	4,030	550	6.7	27	0	7:30
14		4.4	3,030	400	7.9	3.7	3,810	560	8.1	39	0	7:30
15		2.9	3,950	440	9.1	3.4	4,060	580	9.1	44	0	7:30
16		4.8	3,600	480	7.4	5.1	3,240	380	7.6	25	0	7:30
17		4.5	3,960	490	6.5	5.6	3,360	400	6.8	21	0.1	7:30
18		5.4	3,590	480	5.1	6.8	3,570	450	5.2	9	0	7:30
19		5.4	3,310	470	5.6	5.4	3,490	520	5.7	25	0	7:30
20		5.8	3,500	360	5.4	6.2	3,680	460	5.4	28	0.1	7:30
21		5.7	2,920	420	5	5.2	3,590	410	5.6	28	0	7:30
22		5.9	3,540	380	5.6	5.0	3,760	480	5.7	27	0	7:30
23		6.7	3,040	350	5.9	6.2	3,260	410	5.8	23	0	7:30
24		6.8	3,760	400	6.0	6.0	3,450	400	6.4	27	0	7:30
25		2.7	3,790	400	8.0	3.5	3,550	400	8.6	41	0	7:30
26		2.9	2,970	390	7.1	3.2	3,630	440	7.4	34	0	7:30
27		4.1	3,330	460	6.5	4.7	3,020	350	6.7	22	0	7:30
28		2.6	4,170	430	7.5	3.2	3,540	380	7.8	33	0	7:30
29		2.9	3,380	320	8	2.2	3,870	430	7.9	28	0	7:30
30		1.3	3,470	380	8.6	1.5	3,490	380	8.8	35	0	7:30
31		1.6	3,760	400	9.4	1.9	3,610	410	9.4	38	0	7:30

COMMENTS:

TESTS PERFORMED BY (PRINT) John Hornback	SIGNATURE <i>John Hornback</i>	PHONE # (573)365-0455	DATE 2/4/2016
REPORT APPROVED BY (PRINT) Gary Hutchcraft	SIGNATURE <i>Gary Hutchcraft</i>	PHONE # (573)365-0455	DATE 2/4/2016

\*Required Daily (Monday -Friday)

\*\*Required 1/week

State of Missouri  
 Department of Natural Resources  
 NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
 DISCHARGE MONITORING REPORT (DMR)

Dep. of Natural Resources  
 (REGIONAL OFFICE)  
 Southwest Regional Office  
 2040 W. Woodland  
 Springfield, MO 65807-5912  
 4178914300  
 4178914399 (fax)

PERMITTEE NAME/ADDRESS

NAME: Lake of the Ozarks Regional WWTP #1  
 ADDRESS: 43 Anderson Road  
 LAKE OZARK, MO 65049

MO0103241			001 A			
PERMIT NUMBER			DISCHARGE NUMBER			
MONITORING PERIOD						
YEAR	MO	DAY	YEAR	MO	DAY	
2016	01	01	TO	2016	01	31

NOTE: READ PERMIT AND GENERAL INSTRUCTIONS BEFORE COMPLETING THIS FORM.

Parameter		MASS	Unit	CONCENTRATION	Unit	FREQUENCY OF ANALYSIS	SAMPLE TYPE	LAB CODE
BOD, 5-day, 20 deg. C (00310)	REPORTD	*****		3.2	2.6	*****	Weekly	24 Hour Composite
Stage Type: End of Pipe	REQRMNT	*****		Weekly Average 45	Monthly Average 30	*****	Weekly	24 Hour Composite
Flow, in conduit or thru treatment plant (50050)	REPORTD	2.021		*****	*****	*****	Daily	Record
Stage Type: End of Pipe	REQRMNT	Daily Maximum Monitoring Required	Mgal/d	*****	*****	*****	Daily	Record
Nitrogen, ammonia total (as N) (00610)	REPORTD	*****		.04	.03	*****	Weekly	Grab
Stage Type: End of Pipe	REQRMNT	*****		Daily Maximum 10.6	Monthly Average 2.7	*****	Weekly	Grab
Oil and grease (exfiltr. extr.) tot (00550)	REPORTD	*****		<5.0	<5.0	*****	Monthly	Grab
Stage Type: End of Pipe	REQRMNT	*****		Daily Maximum 15	Monthly Average 10	*****	Monthly	Grab
pH (00400)	REPORTD	*****		7.6	7.9	*****	Weekly	Grab
Stage Type: End of Pipe	REQRMNT	*****		Minimum 6	Maximum 9	*****	Weekly	Grab
Temperature, water deg. centigrade (00010)	REPORTD	*****		9.6	7.2	*****	Weekly	Grab
Stage Type: End of Pipe	REQRMNT	*****		Daily Maximum Monitoring Required	Monthly Average Monitoring Required	*****	Weekly	Grab
Total Suspended Solids (TSS) (00530)	REPORTD	*****		3.2	3.0	*****	Weekly	24 Hour Composite
Stage Type: End of Pipe	REQRMNT	*****		Weekly Average 45	Monthly Average 30	*****	Weekly	24 Hour Composite

GENERAL PERMIT REQUIREMENTS OR COMMENTS:  
 OUTFALL-SPECIFIC COMMENTS:  
 PARAMETER-SPECIFIC COMMENTS:

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 ensure 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.

<b>OPERATOR IN RESPONSIBLE CHARGE</b>	
Gary Hutchcraft	7305
TYPED OR PRINTED NAME	CERTIFICATE NUMBER
<b>PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT</b>	
Gary F Hutchcraft	573-365-0455
Gary F Hutchcraft	2016-02-05 08:42:47
TYPED OR PRINTED NAME	SIGNATURE
	Date

State of Missouri  
 Department of Natural Resources  
 NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
 DISCHARGE MONITORING REPORT (DMR)

Dep. of Natural Resources  
 (REGIONAL OFFICE)  
 Southwest Regional Office  
 2040 W Woodland  
 Springfield, MO 65807-5912  
 4178914300  
 4178914399 (fax)

PERMITTEE NAME/ADDRESS

NAME: Lake of the Ozarks Regional WWTP #1  
 ADDRESS: #3 Anderson Road  
 LAKE OZARK, MO 65049

MO0103241		001 B	
PERMIT NUMBER	DISCHARGE NUMBER		
MONITORING PERIOD			
YEAR	MO	DAY	TO YEAR MO DAY
2016	01	01	2016 03 31

NOTE: READ PERMIT AND GENERAL INSTRUCTIONS BEFORE COMPLETING THIS FORM

Parameter		MASS	Unit	CONCENTRATION	Unit	FREQUENCY OF ANALYSIS	SAMPLE TYPE	LAB CODE
Selenium (Se), total recoverable (00981)	REPORTD	*****		<0.010				
	REQRMNT	*****				Quarterly	Grab	
Stage Type: End of Pipe				Daily Maximum 8.1		Monthly Average 4.0	Quarterly	Grab
Zinc (Zn), total recoverable (01094)	REPORTD	*****		0.022				
	REQRMNT	*****				Quarterly	Grab	
Stage Type: End of Pipe				Daily Maximum Monitoring Required		Monthly Average Monitoring Required	Quarterly	Grab

GENERAL PERMIT REQUIREMENTS OR COMMENTS:  
 CUTFALL-SPECIFIC COMMENTS:  
 PARAMETER-SPECIFIC COMMENTS:

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 ensure 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.

OPERATOR IN RESPONSIBLE CHARGE		7305	
Gary Hutchcraft		CERTIFICATE NUMBER	
TYPED OR PRINTED NAME		573-365-0455	
PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT		TELEPHONE	
Gary F Hutchcraft		2016-02-05 08:47:35	
TYPED OR PRINTED NAME		Date	
Gary F Hutchcraft			
SIGNATURE			



# The Lake of the Ozark Regional Wastewater Treatment Plant #1

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

January 2016

### Purpose

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

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## 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 City and Board members 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	573-365-0455		573-216-8398
Frank Hendricks	Operator / Maint. Mech.	573-365-0455		573-375-3792
John Hornback	Operator / Maint. Mech.	573-365-0455	573-369-2761	573-480-4065
Gary Johnson	Division Manager	573-874-8080	573-234-7946	314-581-6024
Tim Geraghty	Director of Operations	636-561-3737	Ext. 101	314-575-4738
Dale Wagner	AWR President	573-874-8080	573-446-1049	573-864-0487

#### 2: Contact Order

Contact Order	Corporate Office Contact	Division Contact	Outside Support Contact
1		Gary Hutchcraft	
2		Frank Hendricks	
3		John Hornback	
4			Chad Shelby
5			Lonnie Madole
6			Josh Thompson
7	Gary Johnson		
8	Tim Geraghty		
9	Dale Wagner		

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Client    Nick Edleman  
 Contact: Matt Michalik

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#### 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
Frank Hendricks	573-216-3878 (duty phone)
John Hornback	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 - (potable well house)
- 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. Dodge Dakota, 2WD pickup truck w/ tire chains.
- 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
• Chad Shelby	573-378-5737	573-789-5242	573-575-7318
• Lonnie Madole	573-782-3330	573-645-7308	
• Josh Thompson	573-364-8790	573-308-6229	573-762-9941
• Gary Johnson	573-874-8080x275	314-581-6024	573-234-7946
• Tim Geraghty	636-561-3737x101	314-575-4738	
• Dale Wagner	573-874-8080x232	573-864-1164	573-445-7302

##### 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 Southwest Regional Office

Phone: 1-417-891-4300 or Environmental Emergency Response 1-573-634-2436

2040 W. Woodland

Springfield, MO 65807

Always try to 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.

<b>WATER RESOURCES</b> <b>Alliance</b>		<b>HOT WORK PERMIT/ CHECKLIST</b>	
Location:		Date:	Supervisor:
Work to be done.			
Special Precautions:			
Time Started:		Time Completed:	
Signed:		Date:	

(Individual responsible for Hot Work authorization.)

**ATTENTION**

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

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

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

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

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

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

Supervisor Signature:	Date:
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(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.	<ul style="list-style-type: none"> <li>• Damage can range from low to medium depending on severity of storm.</li> <li>• Electrical supply, electrical pathways, exposed equipment and equipment located in underground vaults (when flooding is a concern), are most susceptible to damage.</li> </ul>
Severe cold, ice storms, blizzards.	<ul style="list-style-type: none"> <li>• Damage can range from low to medium depending on severity of conditions.</li> <li>• 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.</li> <li>• Ice storms and blizzards can cause damage to the electrical supply and also hinder access to the Wastewater Treatment Plant.</li> </ul>
Earthquakes.	<ul style="list-style-type: none"> <li>• Damage can range from low to high.</li> <li>• 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.</li> <li>• 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.</li> </ul>
Sabotage, civil unrest, riots, terrorist attacks.	<ul style="list-style-type: none"> <li>• 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.).</li> <li>• Measures to prevent damage from terrorist attacks are detailed in the following section on facilities security.</li> </ul>
Air borne chemicals, water borne chemicals, toxic chemical spills, weapons of mass destruction.	<ul style="list-style-type: none"> <li>• Damage to bacteria mass in the treatment process, and can also affect health of treatment personnel.</li> <li>• Caution should always be taken when confronting a chemical - biological emergency.</li> <li>• 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.</li> </ul>

#### 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.

#### **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 Carrousel. 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. Contact generator supplier or vendor. Find out how soon they can get a portable generator to our location. 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 carousel 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 carousel 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	573-365-0455	573-216-8398	
Frank Hendricks	Opr./Maint Mech	573-365-0455	573-375-3792	
John Hornback	Opr./Maint Mech	573-365-0455	573-480-4065	573-369-2761
Dale Wagner	AWR President	573-874-8080	573-864-1164	573-445-7302
Tim Geraghty	Operations Director	636-561-3737	314-575-4738	
Gary Johnson	Division Manager	573-874-8080	314-581-6024	573-234-7946

## City Personnel

Name	Position	Work Phone#	Mobile Phone#
Jeana Woods	City Admin. Osage Beach	573-302-2000 ext. 290	573-280-1174
Nick Edelman	Dir. P/W Osage Beach	573-302-2020	573-216-9856
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#
Nick Edelman	City of Osage Beach	573-302-2020	573-216-9856	573-302-2043

## Sewer Board

Name	Position/Department	Work Phone#
Penny Lyons	Mayor / Osage Beach	573-302-2000
Jeff Bethurem	Board Member / Osage Beach	573-302-2000
Gary Hamner	Board Member / Osage Beach	573-302-2000
Jonnie Franzeskos	Mayor / Lake Ozark	573-365-5378
Gerry Murawski	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	573-552-8147
Nick Edelman	Dir. P/W Osage Beach	573-302-2020	573-216-9856	
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		Ferrell Gas	573-392-5400	573-280-7184
UV System	Walt Williams	ITT Wedeco	704-409-9818	
UV System	Shawn	Vandevanter Engineering	636-343-8880	314-724-1269
Laboratory		EAS Labs	573-204-8817	
Electrician	Steve Durban	Aesthetix Electric	573-348-1429	573-219-0043
Electrician	Leroy	Midwest Electric	573-348-2727	
Truck Repair	Larry	Roemer Equipment Repair	573-348-3733	
Truck Repair	Monte	Rapid Mobile Repair Ser.	573-346-3217	
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		Beyer Auto Repair	573-365-1111	
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	Todd	Ellerman Const.	573-348-3553	573-746-1012
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	Rick	Purcell Tire	573-348-4010	573-836-0038
Truck Tires	Kevin	McKnight Tire	573-635-0101	573-338-3350
Truck Tires		Bruns Service Center	573-392-4816	
Piping Supplies	Justin	HD Waterworks Supply	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
Lake Region Water & Sewer	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
Fred Schlegel	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

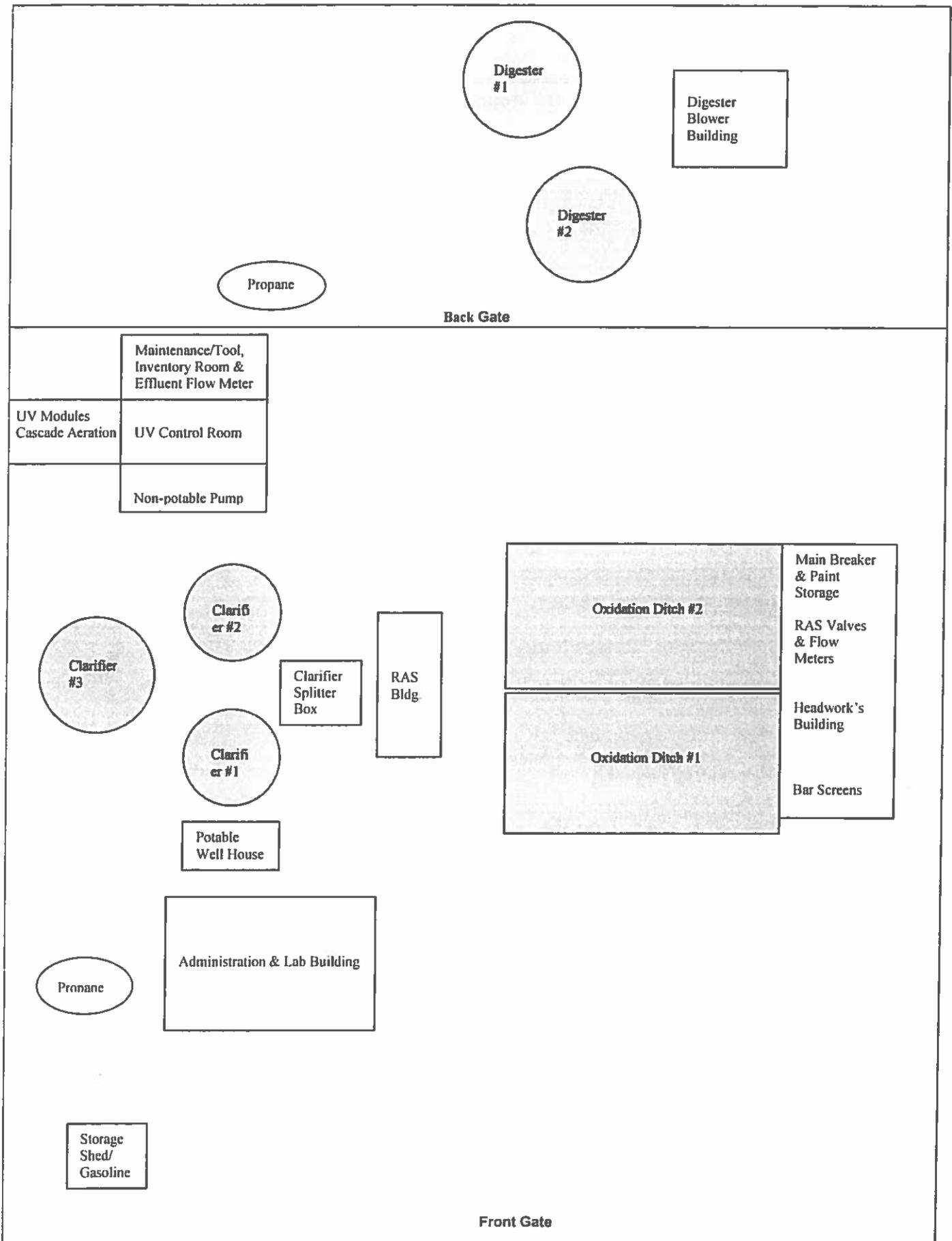
- Chevron Tube Grease
- Mystic tube Grease
- Hydraulic fluid
- Assorted cans spray paint
- Assorted cans building and grounds paint
- Paint thinner / solvents

##### 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 100-gallon portable diesel tank located normally in the back of the Dodge pickup and 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 include checking the grit chamber and bar screen gearboxes for proper oil levels, checking both the Vac. & Compressor pumps for proper operation and checking the suction globe on the grit solids pump for any excess buildup in the globe and/or air lines. The suction globe needs to be cleaned on a monthly basis. Check what day PM is performed.

### Blower Building

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

### Outfall / UV Structure & Building

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

## Appendix 5

### Permit Required Confined Spaces

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

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

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



## CONFINED SPACE ENTRY PERMIT

Post Confined Space Permit at Job Site

Date: \_\_\_\_\_ Start Time: \_\_\_\_\_ Time Valid to: \_\_\_\_\_ (End of Shift)

Space to be Entered: \_\_\_\_\_ Exact Location: \_\_\_\_\_

Purpose of Entry: \_\_\_\_\_

Customer Name & Location: \_\_\_\_\_

Recognized Hazards of Space:  Sewer Gas  O<sub>2</sub> deficiency  Other \_\_\_\_\_

### GENERAL PREPARATIONS CHECKLIST: (Check All Items That Apply)

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

Comments: \_\_\_\_\_

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

### ATMOSPHERIC TESTING RECORD

Meter Make/Model/Serial #: \_\_\_\_\_

Initials	Time	Acceptable Levels →	Oxygen 19.5-23.5%	Combustible Gases <10% LEL	Carbon Monoxide <25 ppm	Hydrogen Sulfide <10 ppm

ENTRY AUTHORIZATION: \_\_\_\_\_  
Entry Supervisor Signature

Customer Health & Safety Representative  
(If Applicable)



## 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
<input type="checkbox"/> Alliance Lockout/ Tagout Devices Applied	<input type="checkbox"/>	_____
<input type="checkbox"/> Temporary Lines/Hoses Removed/ Isolated	<input type="checkbox"/>	_____
<input type="checkbox"/> Energy Sources Locked/Tagged/Tried	<input type="checkbox"/>	_____
<input type="checkbox"/> Notification of Affected Employees	<input type="checkbox"/>	_____
<input type="checkbox"/> Other Applicable Permits (Hot Work, etc.)	<input type="checkbox"/>	_____
<input type="checkbox"/> Additional PPE Required	<input type="checkbox"/>	_____
<input type="checkbox"/> Lockout/ Tagout Devices Visible	<input type="checkbox"/>	_____
<input type="checkbox"/> Special Requirements (List in Comments)	<input type="checkbox"/>	_____

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	
<input type="checkbox"/> Vandalism	<input type="checkbox"/> Power Outage
<input type="checkbox"/> Inflow & Infiltration	<input type="checkbox"/> Plugged Sewer
Rain Inches _____	Manhole location # _____
<input type="checkbox"/> Other _____	
f. Categories of STP Bypass	
<input type="checkbox"/> Head Works	<input type="checkbox"/> Aeration/Biological Treatment
<input type="checkbox"/> Primary Basins	<input type="checkbox"/> Clarifiers
<input type="checkbox"/> Other _____	<input type="checkbox"/> Digester
<input type="checkbox"/> Solids Handling/Drying Beds	
g. Strength of SSO/Bypass: <input type="checkbox"/> Raw (Dry weather SSO or Influent)	
<input type="checkbox"/> Partially Treated Bypass or Wet weather SSO	
Was sampling performed? <input type="checkbox"/> yes <input type="checkbox"/> no	
Type of Samples Taken: <input type="checkbox"/> BOD <input type="checkbox"/> TSS <input type="checkbox"/> Fecal <input type="checkbox"/> Ammonia <input type="checkbox"/> DO <input type="checkbox"/> Other _____	

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

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

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

**NOTE:** Any SSO, bypass or shutdown of a wastewater treatment facility and/or tributary sewer system, is prohibited unless necessary to prevent loss of life, personal injury or property damages. **The Continuing Authority is required to notify the Department of Natural Resources by TELEPHONE or FAX by the next business day of any SSO or bypass, and to follow with a written report within 5 business days.**

**Lake Ozark / Osage Beach Joint Wastewater Plant  
INVENTORY LIST  
January 2016**

**TOOLS**

<u>Item No.</u>	<u>Quantity &amp; Item</u>	<u>X &amp; * = New 2015</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 2016**

**TOOLS**

<u>Item No.</u>	<u>Quantity &amp; Item</u>	<u>X &amp; * = New 2015</u>
44	6 - electrical screwdrivers, 3 straight & 3 philips head	
45	2 - wire strippers	
46	1 - pair lineman pliers	
47	1 - pair needle nose pliers	
48	1 - pair side cutters, 6"	
49	3 - 10" Vise grip pliers, 2 curved jaw & 1 straight	
50	2 - 6" Vise grip pliers, 1 curved & 1 needle jaw	
51	1 - yellow handle tin snips	
52	1 - 12" crescent wrench, Craftsman	
53	3 - pipe wrenches, 18", 24", & 36"	
54	1 - 10" Stanley level	
55	1 - 24" Craftsman level	
56	2 - 25' Task Force tape measures	
57	2 - 6" pocket metal rules	
58	1 - points file	
59	1 - file assortment	
60	1 - rasp file	
61	2 - Concrete trowel	
62	1 - feeler gauge	
63	1 - tool bag	
64	1 - ice pick	
65	1 - punch & chisel set	
66	1 - 2" C clamp & 2 - 4" C clamps	
67	2 - putty knives	
68	1 - parts brush	
69	1 - ball peen hammer	
70	1 - 4lb shop hammer	
71	1 - claw hammer	
72	1 - 10 lb sledge hammer	
73	1 - rubber mallet	
74	1 - hacksaw	
75	3 - wire brushes	
76	1 - tire gauge	
77	1 - 6" square	
78	2 - rag pullers	
79	1 - crow bar	
80	1 - garden rake	
81	1 - round point shovel	
82	1 - flat shovel	
83	1 - 10lb straight bar	
84	1 - pick	
85	1 - anti freeze tester	
86	1 - flat bar	

**Lake Ozark / Osage Beach Joint Wastewater Plant  
INVENTORY LIST  
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**TOOLS**

<u>Item No.</u>	<u>Quantity &amp; Item</u>	<u>X &amp; * = New 2015</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	

**SLUDGE TRUCK TOOLS**

99	1 - grease gun
100	1 - 20 piece Stanley SAE Comb. end wrenches 1/4 - 7/8
101	1 - Set Comb. End wrenches 8mm - 18mm
102	1 - Rubber maid tool bag
103	4 - Stanley flathead screwdrivers
104	2 - Stanley phillips screwdrivers
105	AC Delco T20x4" star screwdriver
106	AC Delco 2x1 1/2" phillips screwdriver
107	AC Delco 1/4"x1 1/2" slotted screwdriver
108	13 oz. Wood handle claw hammer
109	RayOVac industrial flashlight
110	25' task force tape measure
111	7 WR vise grip
112	10 WR vise grip
113	Stanley lineman pliers 84-113
114	Stanley wire cutters 84-060
115	Stanley crescent wrench 85-763
116	1 - Set of wheel chocks
117	1 - log chain
118	1 - air hose
119	1 - assortment Buse fuses & 1157 bulbs

**MISCELLANEOUS EQUIPMENT**

120	1 - Ryobi 18 volt Drill, Circular Saw, Recip saw, Flashlight, Vacuum Combo Kit w/2 batteries
121	1 - Millermatic Wire feed welder w/helmet & gloves
122	1 - 10-2wgr. 50ft Extension cord
123	4 - metal lockers in men's restroom
124	2 - metal lockers in women's restroom
125	1 - plastic mop bucket w/wringer
126	2 - Sigma samplers for parts

**Lake Ozark / Osage Beach Joint Wastewater Plant  
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**MISCELLANEOUS EQUIPMENT**

<u>Item No.</u>	<u>Quantity &amp; Item</u>	<u>X &amp; * = New 2015</u>
127	1 - 4' step ladder, fiberglass	
128	1 - 6' step ladder, fiberglass	
129	10' stepladder, wood	
130	24' 300 lb rated extension ladder, aluminum	
131	24' 300 lb. rated extension ladder, fiberglass	
132	2 - set of plastic saw horses	
133	1 - 6"x 10' suction hoses	
134	2 - 6" x 25' suction hose	
135	1 - 4" x 60' suction hose	
136	2 - 4" x 15' discharge hose @ septic unloading station	
137	2 - Schumacher battery chargers, 1 model SE-82-6 & 1 model XC103-CA*(Stanley replacement)	X
138	2 - 100' extension cord	
139	2 - 50' extension cord	
140	1 - 1 gallon plastic gas cans	
141	2 - 5 gallon steel safety gas cans	
142	1 - misc. log chains, headwork's tool room	
143	4 - 50'x1 1/2" fire hoses	
144	5 - Garden hoses	
145	1 - mechanic creeper	
146	2 - Craftsman gas leaf blowers, older one not running	Purchased 1    X
147	1 - Craftsman 4 cycle weed eater	
148	1 - Stihl weed eater	
149	1 - Kawasaki weed eater	
150	1 - cherry picker (engine hoist)	
151	1 - 9 gallon portable air tank	
152	1 - Campbell Hausfield 26 gallon air compressor	
153	1 - CH air drill	
154	1 - CH air ratchet	
155	1 - CH air grinder	
156	1 - CH air impact wrench	
157	1 - CH air chisel w/4 chisels	
158	1 - air tire inflator	
159	1 - Pro-Arc oxy-acc torch kit & tanks	
160	1 - Pro-Force 33 paint sprayer	
161	1 - 15 gal 12 volt portable sprayer	
162	1 - 60gal Ingersoll Rand in UV building	
163	1 - 3 ea. grease gun	
164	1 - Cowhbian 5" multi bench vise	
165	3 - shop vac's	
166	2 - drum dollies	
167	1 - Commercial Elec. Amp meter, HDSA 500	
168	1 - Commercial Elec. Multi meter, HDM 4100	
169	2 - insulated fuse pullers, 1 large & 1 small	

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**MISCELLANEOUS EQUIPMENT**

<u>Item No.</u>	<u>Quantity &amp; Item</u>	<u>X &amp; * = New 2015</u>
170	1 - GB circuit tester	
171	1 - 3/8 hammer drill	
172	1 - Skil 14.4 drill kit, w/ battery & charger	
173	1 - Black & Decker bench grinder	
174	1 - Black & Decker hand grinder, 4 1/2"	
175	1 - 115V 3/8 VSR Drill/ Driver	
176	1 - propane torch, elec. Start	
177	1 - strap 1 ton come along	
178	2 - chain come alongs, 1 ton & 3 ton	
179	1 - cable come along, 1 ton	
180	1 - 2 ton floor jack	
181	1 - 12 ton high lift jack	
182	2 - yellow air hoses	
183	1 - 100gal. Portable Diesel fuel tank, w/12V fuel pump	
184	1 - portable concrete bucket mixer	
185	1 - wheel barrow	
186	1 - garden cart	
187	1 - Coleman power washer	
188	1 - portable hand work light	
189	1 - portable work light stand w/ dual mounted lights	
190	4 - Strong Arm electric winches - 3 for clarifier scum baskets & 1 for pulling lift station pumps	
191	1 - AMT 3" trash pump w/wheel kit	
192	1 - 3" 50ft & 1 - 30ft suction/discharge hose w/couplings	
193	1 - North Star 3000 PSI Steam and Hot Water Pressure Washer	
194	1 - Warn 120 volt Winch/Hoist for pulling UV channel basket	

**OFFICE INVENTORY**

195	1 - wooden desk
196	1 - metal desk
197	4 - Office chairs
198	3 - file cabinets, 1 - 4 drawer & 2 - 2 drawer
199	1 - 3 shelf bookshelf
200	1 - PC , w, speaker in monitor, keyboard, and surge arrest---DELL
201	1 - MFC-7360N Brother copier / printer
202	1 - conference table
203	27 - folding steel chairs
204	3 - Phones (cradle style)
205	1 - Fellowes paper shredder
206	1 - Bissell vacuum cleaner
207	1 - Emerson TV / VCR Combo (for training)
208	1 - Emerson microwave
209	1 - Magic chef refrigerator
210	1 - Culligan water cooler

**Lake Ozark / Osage Beach Joint Wastewater Plant  
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**CONSUMABLE MATERIALS**

X & \* = New 2015

211 2 - 500 Gallon propane tanks, w/ 260 gallons as of 1/4/16

**VEHICLE'S**

212 1 - 2001 Dodge Dakota vin# 1B7FL26X015269588  
213 1 - 1994 Volvo White GMC Sludge Truck vin# 4V2JCBE75R833094  
214 1 - 1985 GMC 4 Wheel Drive Field Truck vin# 1GDL7D1YDV529996  
215 1 - John Deere Rider (no deck) w/ snow blade (not running wore out)  
216 1 - Kabota ZG123S 48" Zero-Turn Mower

**LABORATORY EQUIPMENT**

Item No. Quantity & Item

217 1 - OHAUS adventurer analytical balance  
218 1 - Orion & 1 no name brand bench top electrode arms  
219 1 - USA Bluebook electric stirrer  
220 3 - Isco Auto samplers w/1 - NI-CAD battery, 1 small & 1 larger charger works in place of battery\* X  
221 1 - Isco Auto sampler pump  
222 1 - Hach Sension 2 ammonia/ph meter and probes  
223 1 - Hach HQ10 DO meter & probe, not in use, obsolete  
224 1 - Oakton pH meter & probe  
225 1 - Allied stirrer and hot plate  
226 1 - Vector spotlight, for discharging Isco batteries  
227 2 - VWR ASTM certified / calibrated thermometers  
228 2 - Nalgene desiccators  
229 1 - muffle furnace-Therolyne  
230 1 - vacuum pump-Fisher  
231 1 - sterilizer-Electric Steno Clave  
232 1 - centrifuge-IEC centrifuge, not in use  
233 1 - Incubator-Fisher ISO temp  
234 1 - drying oven-Fisher ISO temp oven  
235 1 - portable D.O. meter-YSI 550-A  
236 1 - BOD meter & probe--YSI 5905, not in use, obsolete  
237 1 - BOD Incubator- Fisher low temp model 307  
238 1 - microscope-Micromaster  
239 1 - water still-Corning Mega-Pure System MP1, not in use  
240 1 - Cartridge for still- Corning high cap (used), not in use  
241 1 - Lab refrigerator-Marvel Division  
242 2 - timers-West Bend  
243 1 - Hanna portable pH meter  
244 2 - Hach HQ40D meters, one with LBOD probe & 1 w/ Rugged LDO probe\* 1 meter w/LDO probe X  
245 1 - Hach Distillation Glassware set for Ammonia  
246 1 - Thermo Hot plate for distillation  
247 1 - Igloo Ice Maker for Samplers

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**SAFETY EQUIPMENT**

<u>Item No.</u>	<u>Quantity &amp; Item</u>	<u>X &amp; * = New 2015</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 & 73 pair disposable ear plugs	
255	1 - Eye Wash Stations	
256	2 - Back Supports	
257	1 - Gas Detector / Monitor, portable	
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	1 - 10hp Flyght lift station pump	
267	7 - electrical contact relay for pista grit	
268	1 - 3 phase monitors for lift stations	
269	3 - Allen Bradley PLC I/O Boards for UV control panel	
270	85 - UV bulbs *	<b>Purchased 20 X</b>
271	38 - UV quartz sleeve *	<b>Purchased 15 X</b>
272	3 - UV ballast	
273	2 - UV air cylinder rebuild kit & 2 outer bands	
274	1 - UV air cylinder, rebuilt in 2015	
275	1 - UV air cylinder hose, approx. 20 ft.	
276	12 - Wiper Rings	
277	1 - UV bulb cord w/1 bulb sockets	
278	1 - blower for digesters	
279	1 - Vac pump rebuild kit for GMC White sludge truck	
280	1 - Vac pump rebuild kit for 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 & 28 T-8 bulbs	
284	1 - quantity of assorted 3/4, & 1" PVC pipe fittings	
285	1 - quantity of assorted nuts & bolts	
286	2 - Transtector ACP-100 surge suppressor	
287	1 - Transtector PDS 1 tube surge protector	
288	1 - Alternating relay for lift stations	
289	1 - Rebuild kit for the compressor pump in the Pista Grit panel	

