

STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

IN THE MATTER OF THE PETITION OF LMH)
UTILITIES, INC. FOR A NEW SCHEDULE OF) CAUSE NO. 45307-U
RATES AND CHARGES.)

PREFILED TESTIMONY

JAMES T. PARKS- PUBLIC'S EXHIBIT NO. 3

ON BEHALF OF THE

INDIANA OFFICE OF UTILITY CONSUMER COUNSELOR

March 27, 2020

Respectfully submitted,



Daniel M. Le Vay, Atty. No. 22184-49
Deputy Consumer Counselor

CERTIFICATE OF SERVICE

This is to certify that a copy of the foregoing *Office of Utility Consumer Counselor* *Prefiled Testimony of James T. Parks* has been served upon the following counsel of record in the captioned proceeding by electronic service on March 27, 2020.

Jeffrey C. Tucker
2005 Jamison Drive, Suite 104
Bright, Indiana 47025
E-mail: jeff.tucker@tucker.homes.com

L. Parvin Price
Jeffrey M. Peabody
BARNES & THORNBURG LLP
11 S. Meridian Street
Indianapolis, IN 46204
Email: parvin.price@btlaw.com
jeffrey.peabody@btlaw.com



Daniel M. Le Vay
Deputy Consumer Counselor

INDIANA OFFICE OF UTILITY CONSUMER COUNSELOR
115 West Washington Street
Suite 1500 South
Indianapolis, IN 46204
infomgt@oucc.in.gov
317/232-2494 – Phone
317/232-5923 – Facsimile

TESTIMONY OF OUCC WITNESS JAMES T. PARKS
CAUSE NO. 45307-U
LMH UTILITIES, INC.

I. INTRODUCTION

1 **Q: Please state your name and business address.**

2 A: My name is James T. Parks, P.E., and my business address is 115 West Washington
3 Street, Suite 1500 South, Indianapolis, Indiana 46204.

4 **Q: By whom are you employed and in what capacity?**

5 A: I am employed by the Indiana Office of Utility Consumer Counselor ("OUCC") as
6 a Utility Analyst in the Water/Wastewater Division. My qualifications and
7 experience are set forth in Appendix A.

8 **Q: What is the purpose of your testimony?**

9 A: My testimony discusses why LMH Utilities, Inc. ("LMH" or "Applicant") should
10 address the operational concerns identified by the Indiana Department of
11 Environmental Management ("IDEM").

12 **Q: What did you do to prepare your testimony?**

13 A: I reviewed LMH's Small Utility Rate Application and its 2013-2018 IURC Annual
14 Reports. I reviewed the Commission's final orders in Cause Nos. 43609 and 43431.
15 I prepared data request questions and reviewed the responses LMH provided. On
16 December 16, 2019, OUCC Utility Analyst, Kristen Willoughby, and I met with
17 June Tucker (Secretary/Treasurer), Zachariah Tucker (Plant Manager), and Jay
18 Tucker (Vice President) to understand the operation of the wastewater collection
19 and treatment facilities. I also viewed Applicant's above-ground wastewater utility
20 facilities, including the office, wastewater treatment plant, and several lift stations.

1 I took pictures of those facilities, which I present in OUCC Attachment JTP-1 to
2 this testimony.

II. APPLICANT'S CHARACTERISTICS AND CURRENT FACILITIES

3 **Q: Please describe the utility's characteristics.**

4 A: Applicant is an investor owned utility providing wastewater disposal service to
5 approximately 1,261¹ customers in Dearborn County. Applicant's system consists
6 of a 480,000 gallon per day wastewater treatment plant, 17 lift stations, 1,261
7 service connections, approximately 180,339 feet of gravity collection mains and
8 approximately 32,068 feet of force mains.

9 **Q: What are LMH's customer growth characteristics?**

10 A: Over the last six years, Applicant's customer base grew from 1,199 customers on
11 December 31, 2013 to 1,261 customers on December 31, 2018 - a growth rate of
12 approximately 0.8% per year. Residential customers accounted for 96.8% of this
13 growth.²

III. INSPECTION ISSUES

14 **Q: Did IDEM note any potential problems in its most recent inspection of LMH's**
15 **facilities?**

16 A: Yes. On July 2, 2019, an IDEM representative inspected LMH's wastewater
17 treatment facilities and completed a National Pollutant Discharge Elimination
18 System ("NPDES") Wastewater Facility Inspection Report. Subsequently, on July

¹ 2018 Annual Report, page W-1, Year End Customer Numbers.

² 2013 - 2018 Annual Reports, page W-1, Year End Number Customers.

1 11, 2019, IDEM sent LMH's president, Mr. Jeffrey Tucker, an Inspection Summary

2 Letter that indicated the following potential problems:

3 1. IDEM rated the receiving water as unsatisfactory, due to the post-
4 aeration steps and effluent pipe containing a whitish substance
5 associated with the de-chlorination chemical sodium thiosulfate,
6 which is used as part of the treatment process.

7 2. IDEM also noted that overall housekeeping of the facility should be
8 addressed. The inspector observed heavy vegetation, trees, and/or
9 limbs growing into the "L"/digester tank and throughout the facility
10 and several debris piles from the SBR tanks were observed
11 throughout the facility.

12 3. The IDEM inspector also noted several deficiencies in LMH's on-
13 site laboratory.³

14 **Q: Did LMH respond to IDEM concerning these potential problems?**

15 A: Yes. LMH sent a letter to IDEM on July 23, 2019 describing the steps it had taken
16 and would take to address these issues.⁴

17 **Q: When you conducted your on-site review of LMH's facilities on December 16,**
18 **2019, did you notice any of the same potential problems noted in IDEM's July**
19 **11, 2019 letter?**

20 A: Yes. As shown in the photos in OUCC Attachment JTP-4, vegetation, trees, and/or
21 limbs were still growing into the "L"/digester tank, which is part of the wastewater
22 treatment plant.

23 **Q: Do you agree with IDEM that this matter should be addressed?**

24 A: Yes. LMH should address this issue as the vegetation can cause damage to the
25 structure of the tanks or break loose and clog up equipment downstream of the
26 vegetation. Removing the vegetation before it damages the structure will avoid

³ See OUCC Attachment JTP-2 for the entire IDEM Inspection Summary Letter.

⁴ See OUCC Attachment JTP-3 for the response letter dated July 23, 2019 from LMH.

1 unnecessary and expensive repairs. Rate payers should not be required in the future
2 to pay higher rates to fix the damages to the structure that could have been avoided.

IV. OUCC RECOMMENDATIONS

3 **Q: Please summarize your recommendations.**

4 A: I recommend the Commission order LMH to remedy all of the unresolved
5 operational deficiencies identified in IDEM's July 11, 2019 Inspection Summary
6 Letter.

7 **Q: Does this conclude your testimony?**

8 A: Yes.

APPENDIX A

1 **Q: Please describe your educational background and experience.**

2 A: In 1980 I graduated from Purdue University, where I received a Bachelor of Science
3 degree in Civil Engineering, having specialized in Environmental Engineering. I
4 then worked with the Peace Corps for two years in Honduras as a municipal
5 engineer and as a Project Engineer on self-help rural water supply and sanitation
6 projects funded by the U.S. Agency for International Development (U.S. AID). In
7 1984 I earned a Master of Science degree in Civil Engineering and Environmental
8 Engineering from Purdue University. I have been a Registered Professional
9 Engineer in the State of Indiana since 1986. In 1984, I accepted an engineering
10 position with Purdue University, and was assigned to work as a process engineer
11 with the Indianapolis Department of Public Works ("DPW") at the City's Advanced
12 Wastewater Treatment Plants. I left Purdue and subsequently worked for
13 engineering consulting firms, first as a Project Engineer for Process Engineering
14 Group of Indianapolis and then as a Project Manager for the consulting firm HNTB
15 in Indianapolis. In 1999, I returned to DPW as a Project Engineer working on
16 planning projects, permitting, compliance monitoring, wastewater treatment plant
17 upgrades, and combined sewer overflow control projects.

18 **Q: What are the duties and responsibilities of your current position?**

19 A: My duties include evaluating the condition, operation, maintenance, expansion, and
20 replacement of water and wastewater facilities at utilities subject to Indiana Utility
21 Regulatory Commission ("Commission") jurisdiction.

1 **Q: Have you previously testified before the Commission?**

2 **A: Yes.**



Plant Exterior



Plant Inlet



Plant Lab



Sequence Batch Reactor Tanks Photo 1



Sequence Batch Reactor Tanks Photo 2



Sequence Batch Reactor Tanks Photo 3



Sequence Batch Reactor Tanks Photo 4



Screen



Sludge Press



Utility Vehicles



Plant Outlet Photo 1



Plant Outlet Photo 2



South Point Booster Station



Indiana Department of Environmental Management

We Protect Hoosiers and Our Environment.

100 N. Senate Avenue • Indianapolis, IN 46204
(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov

Eric J. Holcomb
Governor

Bruno Pigott
Commissioner

July 11, 2019

Via Email to: jefftucker@tucker-homes.com

Mr. Jeffrey C. Tucker, President
Picnic Woods Development
2005 Jamison Drive
Lawrenceburg, Indiana 47025

Dear Mr. Tucker:

Re: Inspection Summary Letter
Picnic Woods Development WWTP
NPDES Permit No. IN0053759
Lawrenceburg, Dearborn County

An inspection of the above-referenced facility or location was conducted by a representative of the Indiana Department of Environmental Management, Southeast Regional Office, pursuant to IC 13-18-3-9. A summary of the inspection is provided below:

Date(s) of Inspection: July 02, 2019
Type of Inspection: Compliance Evaluation Inspection
Inspection Results: Potential problems were discovered or observed.

1. 327 IAC 2-1-6(a)(1) requires all waters to meet the minimum conditions of being free from substances, materials, floating debris, oil, or scum attributable to municipal, industrial, agricultural, and other land use practices, or other discharges: 1. That will settle to form putrescent or otherwise objectionable deposits; 2. That are in amounts sufficient to be unsightly or deleterious; 3. That produce color, visible oil sheen, odor, or other conditions in such degree as to create nuisance. Receiving Water was rated as unsatisfactory. At the time of the inspection, it was noted that the post aeration steps and effluent pipe contained a whitish substance associated with the dechlorination chemical sodium thiosulfate, used as part of the treatment process (photo's attached). The effluent was clean and clear at the time of the inspection.
2. The Facility/Site evaluation generated a marginal rating. The overall housekeeping of the facility should be addressed. Upon inspection, the inspector observed heavy vegetation, trees, and/or limbs growing into the "L"/digester tank. and throughout the facility. Several debris piles from the SBR tanks were observed throughout the facility.

3. The laboratory evaluation generated a marginal rating. Part I.B. 5 of the permit required the analytical and sampling methods used to conform to the current version of 40 CFR, Part 136, unless otherwise specified. The following deficiencies were noted:
- A. Since table top instruments are used for D.O. and pH analyses, the analysis time must be included on the bench sheets to ensure hold times are met. If portable meters are used at the sample site, only on time has to be recorded to capture the sample and analysis time.
 - B. For TSS, volume of sample must be increased to meet the minimum residue requirement of 0.0025 g.
 - C. For pH and Ammonia, the facility must calibrate the probe each sampling day and must use a three point calibration that ensures that expected results are bracketed by the standards. This procedure is outlined in the Indiana QA/QC Manual for Wastewater Laboratories located at <http://in.gov/idem/cleanwater/2443.htm>. For your information,

IDEM offers free laboratory assistance/training through the Operator Assistance and Technical Support (OATS) program. If you are interested in receiving laboratory assistance/training, please contact Kim Rohr at 317-719-1666 or at KRohr@idem.IN.gov

Potential problems, like those noted above do not normally constitute violations for which a formal response is required. However, due to the number of potential problems noted during this inspection, a written detailed response documenting correction of the concerns listed above and/or a plan for assuring future compliance must be submitted to this office within 30 days of receipt of this letter. Please direct your response to this letter to the attention of Bridget S. Murphy, at our letterhead address or via email to wwViolationResponse@idem.IN.gov. Any questions should be directed to Kevin Stark at 812-525-9411 or by email to kstark@idem.IN.gov. Thank you for your attention to this matter.

Sincerely,



Mark A. Amick, Director
Southeast Regional Office

Enclosure



NPDES Wastewater Facility Inspection Report
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

NPDES Permit Number: IN0053759		Facility Type: Mixed Ownership		Facility Classification: Minor		TEMPO AI ID 1853	
Date(s) of Inspection: July 02, 2019							
Type of Inspection: Compliance Evaluation Inspection							
Name and Location of Facility Inspected: Picnic Woods Development WWTP 2494 One Mile Road Lawrenceburg IN 47025				Receiving Waters: UNT to Turkey Creek		Permit Expiration Date: 4/30/2021	
County: Dearborn				Design Flow: .48MGD			
On Site Representative(s): First Name Last Name Title Email Phone Zach Tucker Operator zachtucker@tucker-homes.com 503-616-7584							
Was a verbal summary of findings presented to the on-site representative? Yes							
Certified Operator: Zach Tucker		Number: 20576	Class: II	Effective Date: 7-1-19	Expiration Date: 6-30-21	Email: zachtucker@tucker-homes.com	
Cyber Security Contact: Name: _____ Email: _____							
Responsible Official: Mr. Jeffrey C. Tucker, President 2005 Jamison Drive Lawrenceburg, Indiana 47025				Permittee: Picnic Woods Development Email: jefftucker@tucker-homes.com Phone: 812-637-0015 Fax: _____		Contacted? No	
INSPECTION FINDINGS							
<input type="radio"/> Conditions evaluated were found to be satisfactory at the time of the inspection. (5) <input type="radio"/> Violations were discovered but corrected during the inspection. (4) <input checked="" type="radio"/> Potential problems were discovered or observed. (3) <input type="radio"/> Violations were discovered and require a submittal from you and/or a follow-up inspection by IDEM. (2) <input type="radio"/> Violations were discovered and may subject you to an appropriate enforcement response. (1)							
AREAS EVALUATED DURING INSPECTION							
<i>(S = Satisfactory, M = Marginal, U = Unsatisfactory, N = Not Evaluated)</i>							
U	Receiving Waters	M	Facility/Site	S	Self-Monitoring	N	Compliance Schedules
S	Effluent Appearance	S	Operation	S	Flow Measurement	S	Pretreatment
S	Permit	S	Maintenance	M	Laboratory	S	Effluent Limits Compliance
S	Collection System	S	Sludge	S	Records/Reports	N	Other:
DETAILED AREA EVALUATIONS							
Receiving Waters:							
<u>U</u> 1. The receiving stream was visibly free of excessive deposits of settled solids, floating debris, oil, scum, or billowy foam. Comments: 327 IAC 2-1-6(a)(1) requires all waters to meet the minimum conditions of being free from substances, materials, floating debris, oil, or scum attributable to municipal, industrial, agricultural, and other land use practices, or other discharges: 1. That will settle to form putrescent or otherwise objectionable deposits; 2. That are in amounts sufficient to be unsightly or deleterious; 3. That produce color, visible oil sheen, odor, or other conditions in such degree as to create nuisance. Receiving Water was rated as unsatisfactory . At the time of the inspection, it was noted that the post aeration steps and effluent pipe contained a whitish substance associated with the dechlorination chemical sodium thiosulfate, used as part of the treatment process (photo's attached). The effluent was clean and clear at the time of the inspection.							
Effluent Appearance:							

S 1. Treated effluent was free of excessive solids, floating debris, oil, scum, or billowy foam.

Comments:

The effluent was clear and free of color at the time of the inspection.

Permit:

S 1. Did the facility have a current copy of the permit available for reference?

N 2. If the permit expires within 180 days, has a renewal application been submitted?

S 3. Receiving waters were accurately described in permit.

N 4. The permit has been properly transferred if there is a new owner.

Comments:

The facility was found to have a valid permit and the facility description, including units of treatment and receiving stream, is accurate.

Collection System:

N 1. CSO's were found to be adequately monitored and maintained.

S 2. Evaluation of maintenance-related (clogged or blocked lines) overflow events in last 12 months.

S 3. Evaluation of hydraulic (I&I) overflow events in last 12 months.

N 4. Facility has met SSO and dry weather CSO reporting requirements

N 5. Any adverse impacts from SSO and CSO events have been properly mitigated.

S 6. Lift stations were found to be adequately inspected, cleaned, and maintained, with adequate documentation of activities.

S 7. Collection system maintenance activities appeared to be adequate.

Comments:

The Collection System evaluation generated a satisfactory rating. All lift stations are checked at a minimum of three times per week. The facility did not have any reported overflows in the last twelve months. All overflows, including basement backups, must be reported to IDEM.

Facility/Site:

S 1. The facility was found to have standby power or equivalent provision.

S 2. An adequate alarm or notification system for power or equipment failure was available for the treatment facility and lift stations.

S 3. Safe and adequate access was provided for inspection of all units and outfalls.

M 4. Facilities and equipment did not appear beyond their useful life.

5. List any safety concerns:

Comments:

The Facility/Site evaluation generated a **marginal** rating. The overall housekeeping of the facility should be addressed. Upon inspection, the inspector observed heavy vegetation, trees, and/or limbs growing into the "L"/digester tank. and throughout the facility. Several debris piles from the SBR tanks were observed throughout the facility.

Operation:

S 1. All facilities and systems necessary for achieving compliance with the terms and conditions of the permit were operated efficiently, including a report for an anticipated bypass report for steps of treatment taken out of service.

S 2. An adequate, qualified operating staff was found to be provided to carry out the operation of the facility, including:

a. Certified Operator's on-site attendance and/or qualified operations personnel attendance was adequate.

b. Adequate documentation of operational activities, including system monitoring and cleaning.

c. Adequate funding to ensure proper operation.

S 3. Solids handling procedures include:

a. Sufficient solids wasted from the treatment system, in a timely manner, to maintain process efficiency.

b. Wasting of solids based on appropriate operational targets and valid process control testing.

c. Adequate documentation of solids removal, handling, or control was available for review.

S 4. The facility was found to be operated efficiently during wet weather events.

Comments:

All units of treatment appeared to be operating efficiently.

Maintenance:

S 1. A maintenance record system has been established and includes maintenance/repair history and preventative maintenance plan.

S 2. Facility maintenance activities appeared to be adequate.

Comments:

Maintenance was rated as satisfactory. A detailed maintenance log for the facility and all lift stations was available for review.

Sludge:

S 1. Sludges, screenings, and slurries were found to be handled and disposed of properly.

Comments:

A records review during the inspection showed adequate wasting, handling, and disposal of sludge.

Self-Monitoring:

S 1. Samples were found to be taken at pre-designated locations and were found to be representative.

S 2. Flow-proportioned samples were found to be obtained where needed.

S 3. The facility was found to conduct sampling of all waste streams, including type and frequency, as required in the permit.

S 4. Sample collection procedures, including automatic sampling, were found to include:

- a. Samples refrigerated during compositing.
- b. Proper preservation techniques used.
- c. Containers and holding times conformed to 40 CFR 136.3.

S 5. Sample documentation was found to be adequate and included:

- a. Dates, times, and locations of sampling.
- b. Name of individual performing sampling.
- c. Instantaneous flow for flow-weighted aliquots.
- d. Chain of Custody records.

N 6. NPDES Permit Whole Effluent Toxicity (WET) testing requirements were found to be met.

Comments:

The Self Monitoring Program was rated as satisfactory. All sampling practices, including raw and intermediate unit process testing, are conducted accurately and at the frequency required by the permit.

Flow Measurement:

S 1. Flow was found to be properly monitored as required by the permit.

S 2. Flow data and calibration records were available for review.

Comments:

The effluent flow meter was last calibrated on August 31, 2018 by Gripp.

Laboratory:

The following laboratory records were reviewed:

D. O. Bench Sheets	Chlorine Bench Sheets	Sample Log
CBOD Bench Sheets	TSS Bench Sheets	Ammonia Bench Sheets
pH Bench Sheets	E. coli Bench Sheets	

M 1. The laboratory practices and protocol reviewed were adequate, including:

- a. A written laboratory QA/QC manual was available.
- b. Samples were found to be properly stored.
- c. Approved analytical methods were found to be used.
- d. Calibration and maintenance of instruments was found to be adequate.
- e. QA/QC procedures were found to be adequate.
- f. Dates of analyses (and times where required) were recorded.
- g. Name of person performing analyses was recorded.

M 2. Review of lab records and/or on-site field testing equipment and protocols was found to be adequate.

Comments:

The laboratory evaluation generated a **marginal** rating. Part I.B. 5 of the permit required the analytical and sampling methods used to conform to the current version of 40 CFR, Part 136, unless otherwise specified. The following deficiencies were noted:

- A. Since table top instruments are used for D.O. and pH analyses, the analysis time must be included on the bench sheets to ensure hold times are met. If portable meters are used at the sample site, only on time

has to be recorded to capture the sample and analysis time.

- B. For TSS, volume of sample must be increased to meet the minimum residue requirement of 0.0025 g.
- C. For pH and Ammonia, the facility must calibrate the probe each sampling day and must use a three point calibration that ensures that expected results are bracketed by the standards. This procedure is outlined in the Indiana QA/QC Manual for Wastewater Laboratories located at <http://in.gov/idem/cleanwater/2443.htm>.

For your information, IDEM offers free laboratory assistance/training through the Operator Assistance and Technical Support (OATS) program. If you are interested in receiving laboratory assistance/training, please contact Kim Rohr at 317- 719-1666 or at KRohr@idem.IN.gov

Records/Reports:

The following records/reports were reviewed:

DMRs for the period of June 2018 to May 2019 were reviewed as part of the inspection.

- S 1. All facility records for the period including the previous three years were available for review.
- S 2. DMRs and MROs were found to be completed properly and accurately including:
 - a. "No Ex" column was accurate.
 - b. Signatory requirements were met.
 - c. Reports were prepared by or under the direction of a certified operator.
- N 3. Bypass and Noncompliance reporting were found to be adequate.

Comments:

The requested records were available and appeared to be complete and accurate.

Compliance Schedules:

- N 1. The NPDES Permit Schedule of Compliance monitoring and reporting milestones have been met.
- N 2. Agreed Order compliance milestones have been met.

Comments:

There is no Schedule of Compliance in the current permit, and there is no Agreed Order.

Pretreatment:

- S 1. No evidence of interference from industrial or other sources of toxic substances was noted.
- N 2. For both Delegated and Non-Delegated pretreatment programs:
 - a. Industrial or commercial dischargers were found to be regulated as required.
 - b. The permittee was found to enforce the Sewer Use Ordinance (SOU) and the Enforcement Response Plan (ERP).
- S 3. If the non-delegated permittee accepts hauled waste:
 - a. Does the POTW provide written permission to haulers?
 - b. Does the POTW obtain samples from each hauled waste load and retain them for at least 48 hours?
 - c. Does the POTW retain records of each load?

Comments:

The facility has no industrial sources. The facility does accept hauled waste from septic haulers. Samples are collected and stored for 48 hours for each load.

Effluent Limits Compliance:

Yes 1. Were DMRs reviewed as part of the inspection?

DMRs for the period of June 2018 to May 2019 were reviewed as part of the inspection.

No 2. Were violations noted during the review of DMRs?

Comments:

There were no reported effluent limit violations during the review period.

IDEM REPRESENTATIVE

Inspector Name:

Kevin Stark

Email:

kstark@idem.IN.gov

Phone Number:

812-525-9411

IDEM MANAGER REVIEW

IDEM Manager:

Mark A. Amick

Date:

7/10/2019

Inspection Photographs



Facility: Picnic Woods Development WWTP
Photographer: Kevin Stark
Date: 7/2/2019 Time: 11:07:00 AM
Others Present: Zach Tucker
Location/Description: Outfall 001 of the Picnic Woods Development WWTP showing a whitish substance deposited from the effluent caused from the sodium thiosulfate used in the dechlorination process. The effluent was clean and clear at the time of the inspection.



Facility: Picnic Woods Development WWTP
Photographer: Kevin Stark
Date: 7/2/2019 Time: 11:07:00 AM
Others Present: Zach Tucker
Location/Description: Outfall 001 of the Picnic Woods Development WWTP post aeration steps showing the post aeration steps and a slight whitish substance deposited at the entry point of the creek.

1N0053759
Dearborn Co

To Whom It May Concern,

In response to our recent inspection, my coworkers and I are taking the following corrective actions:

1. Attached is a copy of a revised bench sheet which includes sample collection time as well as sample analysis time to better indicate and record hold times.
2. We have upgraded to a Hach pH electrode probe PHC10101 that can be used with our current Hach HQ30d benchtop meter which we will also begin calibrating every day pH is measured. Attached is an updated pH calibration log we will be using as our new bench sheet.
3. We have increased our TSS test sample volume from 100 ml of effluent to 300 ml of effluent, which has raised the final residue of our tests above the minimum requirement of 0.0025 g. Attached is a copy of a revised and completed TSS bench sheet.
4. We have removed the debris from any recent work done on or around our SBRs.
5. We have hired VIP Lawncare to trim/remove the overgrowth around the SBRs and "L-Tank" digester. He will begin the work in the next few weeks.
6. We have reduced the dosage of sodium thiosulfate to address the residue left after dechlorination. We have also adjusted chemical intake valves to minimize sediment uptake from our bulk chemical totes. Rex Blanton from the Alliance of Indiana Rural Water has met with us at our facility to determine other methods of more effectively reducing residue from dechlorination on our outfall step aerator. Attached are pictures of the Outfall 001 step aerator approximately 6 days after implementation of stated residue reduction methods.

Thank you for your time and assistance; we look forward to working with you further to keep our facility running the best it can. Please let us know if we can be of any further assistance.

Sincerely,

Zach Tucker
Managing Operator
LMH Utilities
Cell Phone: 513-616-7854
Office Phone: 812-637-0015
zachtucker@tucker-homes.com

LMH Dissolved Oxygen Bench Sheet

SM 4500-O G.

Date	Sample	Sample Location	Analyst	Sample Time	Analysis Time	Sample Temp	Sample DO
Mon 7-15	AM EFF	Outfall 1	Z	8:46	8:50	23.0	6.79
	MD EFF	Outfall 1	Z	11:06	11:08	23.3	6.88
	PM EFF	Outfall 1	Z	1:38	1:41	23.7	6.88
Tues 7-16	AM EFF	Outfall 1	Z	10:35	10:38	22.8	6.91
	MD EFF	Outfall 1	Z	12:52	12:55	23.1	6.82
	PM EFF	Outfall 1	Z	3:17	3:23	23.4	6.91
Wed 7-17	AM EFF	Outfall 1	Z	9:16	9:19	22.8	7.17
	MD EFF	Outfall 1	Z	11:41	11:45	22.8 22.8	6.92
	PM EFF	Outfall 1	Z	2:21	2:23	22.9	6.87
Thurs 7-18	AM EFF	Outfall 1	Z	9:49	9:52	23.0	7.18
	MD EFF	Outfall 1	Z	12:06	12:10	23.5	7.09
	PM EFF	Outfall 1	Z	2:44	2:48	23.7	7.16
Fri 7-19	AM EFF	Outfall 1	Z	8:52	8:57	23.3	7.10
	MD EFF	Outfall 1	Z	11:13	11:16	23.6	6.90
	PM EFF	Outfall 1	Z	1:44	1:47	24.0	6.95

LMH UTILITIES TOTAL SUSPENDED SOLIDS BENCH SHEET

SM 2540 D.

DATE OF SAMPLE	7-12			7-10		7-11			7-12			
SAMPLE	BLANK 1	INF 2	EFF 3	INF 4	EFF 5	INF 6	EFF 7	EFF 8	9	10		
SAMPLE AMOUNT	100ml	50ml	300ml	50ml	300ml	50ml	300ml	300ml				
WEIGHT FINAL	.1405	.1508	.1453	.1521	.1433	.1478	.1418	.1420				
TARE WEIGHT	.1406	.1408	.1411	.1398	.1388	.1378	.1385	.1390				
INITIAL TSS	-1	.0100	.0042	.0123	.0045	.0100	.0033	.0030				
FINAL TSS	-1	200	14	246	15	200	11	10				

PREP DATE: 7-11-19

TEST DATE: 7-12-19

OBSERVATION DATE: 7-15-19

PREP TIME: 7:33

PREP COOL TIME IN: 10:35

TEST COOL TIME IN: 7:40

PREP DRY TIME IN: 7:55

TEST TIME: 3:20

TEST COOL TIME OUT: 8:22

ANALYST: Z

TEST DRY TIME IN: 4:04

ANALYST: Z

ANALYST: Z

TSS (if weights are in grams) = $\frac{A - B \times 1,000,000}{\text{Sample Vol. (mg)}}$

Where: A = weight of filter + dried residue (g), and
B = tare weight of filter (g)

Acculab LA-110 Scale Calibration: 100 g

DATE: 7-11-19

NOTES:

TIME: 9:36

ANALYST: Z





