STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

PETITION OF COMMUNITY UTILITIES OF INDIANA, INC. FOR: AUTHORITY TO INCREASE ITS RATES AND CHARGES FOR WATER AND WASTEWATER UTILITY SERVICE; APPROVAL OF NEW SCHEDULES OF RATES AND CHARGES APPLICABLE THERETO; AUTHORITY TO RECOVER CERTAIN COSTS INCURRED IN CONNECTION WITH CAUSE NOS. 44724, 45342 AND 45389; AUTHORITY TO RECOVER COSTS INCURRED AND DEFERRED IN CONNECTION WITH THE COVID-19 PANDEMIC; APPROVAL OF A NEW RESIDENTIAL LOW-INCOME RATE FOR WATER AND WASTEWATER SERVICE; AND OTHER APPROPRIATE RELIEF	)	**CAUSE NO. 45651**

PUBLIC'S EXHIBIT NO. 2

TESTIMONY OF JAMES T. PARKS

ON BEHALF OF

THE INDIANA OFFICE OF UTILITY CONSUMER COUNSELOR

April 28, 2022

Respectfully submitted,

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TESTIMONY OF OUCC WITNESS JAMES T. PARKS
CAUSE NO. 45651
COMMUNITY UTILITIES OF INDIANA, INC.

Q: Please state your name and business address.

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

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

A: I am employed by the Office of Utility Consumer Counselor ("OUCC") as a Senior Utility Analyst in the Wastewater/Wastewater Division. My qualifications and experience are described in Appendix A.

Q: What is the purpose of your testimony?

A: I describe CUII's proposed $2,296,298 Headworks project and the $500,000 Chemical/Office Building at the wastewater treatment plant ("WWTP"). I testify that neither project locates and reduces infiltration and inflow ("I&I") that has plagued Petitioner's collection system. I testify CUII fully designed and permitted Headworks projects in 2016 and as part of a WWTP replacement in 2020, but that the Commission denied preapproval in 2021. I recommend the Commission disallow the Headworks project again because CUII has not:

1) justified the project need;
2) provided adequate information and cost support;
3) identified project alternatives; or
4) performed a life cycle cost analysis as required by Indiana Code Ch. 13-18-26 to justify its selected project is the best option for ratepayers.

I testify that a far less costly alternative exists by reinstalling a comminutor to

address screenings and prevent potential WWTP hydraulic back-ups.

I recommend the Commission disallow the Chemical/Office Building in its entirety because CUII has not provided any details in its case-in-chief about the building, such as the square footage, number of stories, or support for its estimated $500,000 building cost. I testify that CUII can continue to use its chemical phosphorus system that is housed in the CUII garage and that CUII staff should continue using the leased office space. Given the Commission's clear direction in Cause Nos. 44724 and 45389 that CUII focus on its collection system to find and remove excessive I&I, I testify that CUII should not be pursuing lower priority capital projects such as new offices.

I describe the proposed Lift Station L force main replacement project. I testify that I do not agree the short 1,101 lineal feet ("LF") existing 8-inch force main segment should be replaced with 12-inch pipe because CUII has not proven that its claim of a loss of capacity even exists in Lift Station L or its force main, or that there is any operational need to increase the force main capacity. I testify CUII has not met its burden of proof to show the force main project is needed. I report CUII does not have a Collection System Master Plan. I testify that if CUII's intent is to pump more I&I directly to the WWTP rather than find it and remove it, I recommend the Commission order CUII to follow the Commission's clear direction from Cause No. 44724 and Cause No. 45389 to develop and execute a comprehensive I&I program. It appears CUII still does not have a comprehensive I&I program to decrease the entry of water inflow and ground water infiltration into Petitioner's separate sanitary sewer system. I recommend that the Commission

disallow both the Lift Station L force main project and the Lift Station C generator projects. Both projects are unneeded and CUII has failed to show why they are necessary. For the issue of aesthetics pertaining to the portable generator at Lift Station C, I recommend that CUII provide a fence with shrubs or plant shrubs as a visual barrier to minimize the public's view of the existing generator.

I discuss that CUII wants to replace both the company side and customer sides of the sewer lateral at the same time as a single construction project, and seeks Commission approval to include the total $2,000,000 cost in rate base.[1] Given the large number of unquantified costs, the impact on customer rates, ownership issues, and other higher CUII priorities for sewer repairs, I recommend the Commission disallow CUII's proposed sewer lateral replacement program in its entirety.

Q: What did you review to prepare your testimony?

A: I reviewed Community Utilities of Indiana, Inc.'s ("CUII" or "Petitioner") Petition and MSFR filings dated December 7, 2021, the Case-in-Chief Testimonies and Attachments of Steven Lubertozzi, President of CUII and Loren Grosvenor, State Operations Manager. I reviewed sections of the Final Orders from Cause No. 44724 (January 24, 2018), Cause No. 45342, Water Preapproval (November 4, 2020), and Cause No. 45389, Wastewater Preapproval (May 5, 2021). I participated in writing data requests and reviewing CUII's responses. I previously viewed the water treatment plants ("WTPs") and wastewater treatment plants ("WWTPs") at Twin Lakes and WSCI on March 9, 2016 for Cause No. 44724. I toured the Twin Lakes

[1] On April 25, 2022, CUII responded to Lakes of the Four Seasons DR 1.07 and advised that it only seeks to replace the utility side of the lateral. As discussed further below, this is at odds with CUII's testimony.

WWTP on November 20, 2019, and the Twin Lakes WWTP and Lift Stations B, C, D, and L on August 5, 2020. I also toured the Twin Lakes WTP # 1 on May 12, 2020. If I do not otherwise discuss matters raised by CUII in this case, my silence should not be interpreted as the OUCC's agreement with CUII's position, or that the OUCC supports CUII's requests unless my testimony states so specifically.

Q: What relief does Community Utilities of Indiana, Inc. seek in this cause?

A: Community Utilities of Indiana, Inc. ("CUII" or "Petitioner") requests two-step rate increases for its water and wastewater utilities using a future test year ending September 30, 2023 with the Base Year ending September 30, 2021 and the link period ending September 30, 2022. Petitioner is requesting a water rate increase of approximately 87.59% to generate $2,168,018 in additional revenues to produce Phase II pro forma water revenues of $4,643,229. For wastewater, CUII requests a two-step rate increase of approximately 51.47% to generate $1,243,473 in additional revenues to produce Phase II pro forma wastewater revenues of $3,659,252. For combined water and wastewater, CUII requests an overall $3,411,489 revenue increase to produce Phase II pro forma revenues of $8,302,481. CUII asks the Commission to find that its existing rates for water and wastewater utility service are unjust, unreasonable, insufficient, confiscatory, and inadequate to provide a fair return on the fair value of Petitioner's Utility Properties used and useful for the convenience of the public in rendering utility service.

The Commission's Final Order in Cause No. 44724 required CUII to submit a Rate Base Update through the end of the test period, September 30, 2017, that included total plant additions, including major projects. For CUII's consolidated

water operations and consolidated wastewater operations as of September 30, 2017, Petitioner reported the Original Cost Rate Base was $7,694,036 and $8,330,335 respectively.[2]

CUII seeks a $9,166,497 increase to the rate base authorized by the Commission in Cause No. 44724 for consolidated water operations to produce a *pro forma* original cost rate base of $16,860,533 as of September 30, 2023. CUII also seeks a $3,683,552 increase to the rate base authorized by the Commission in Cause No. 44724 for consolidated wastewater operations to produce a *pro forma* original cost rate base of $12,013,887 as of September 30, 2023.

I. TWIN LAKES WWTP HEADWORKS PROJECT

Q: Does Petitioner propose to construct a new Headworks project at the Twin Lakes WWTP?

A: Yes. Loren Grosvenor, CUII's State Operations Manager, testifies CUII will build a new Headworks project for $2,296,298.[3]

Q: Will this project help locate and reduce the excessive I&I entering Petitioner's collection system that has been a contentious issue in Petitioner's rate cases going back thirty years?

A: No.

Q: Do you agree that the Headworks project should be included in rate base at the end of the Future Test Year, September 30, 2023?

A: No. CUII has not justified the project need or provided adequate project information and cost support to justify that its selected project is the best option for ratepayers. CUII has not supported its cost estimate, identified project alternatives, or

[2] Petitioner's Rate Base Updates (Water and Sewer), Exhibit RBU-5, Cause No. 44724 – 02/23/2018.

[3] Table 1, Case-in-Chief Testimony of Loren Grosvenor, pp. 16, 26-29.

performed a life cycle cost analysis comparing its planned project to any alternative, and CUII may be unable to complete project construction by the end of the Future Test Year. For all major plant investments such as the Headworks project, CUII should provide detailed project descriptions, the basis or need for the projects, and a cost estimate with support for all charges (including material quantities, major equipment, non-construction costs, AFUDC, cap time, contingencies, etc.), broken out in sufficient detail to allow an auditor adequate information to verify the reasonableness of the project. Rather than just assert a need exists, CUII should provide evidence supporting its claim that a project is needed.

Q: What is included in Petitioner's Headworks project?

A: In its Case-in-Chief testimony, CUII provided a one paragraph general description without a comprehensive list detailing all components it seeks to build and did not identify the design average or design peak hourly flow capacities. In its previous preapproval case (Cause No. 45389),[4] CUII proposed replacing the existing WWTP with a new WWTP sized to treat a 1.6 MGD design average flow and a 4.8 MGD peak hourly flow. In the preapproval case, the two Headworks screens were sized to treat 7.0 MGD each; in this Cause, CUII had not provided the number of proposed screens and grit removal tanks or their capacities.[5] In discovery, Petitioner stated that "[t]he Headworks facility will be designed for a peak flow of 14 MGD."[6]

[4] CUII's request for pre-approval was denied by this Commission.

[5] *See* Attachment JTP-1, Construction Permit No. 23507 – Twin Lakes WWTP Expansion (1.6 MGD / 4.8 MGD Peak) – 06/10/2020. Construction Permit No. 23507 was included as Attachment SC-32 to the Case-in-Chief Testimony of Sean Carbonaro, Cause No. 45389 - 06/11/2020.

[6] Petitioner's response to DR 10-1.

Q: Is CUII planning to build the headworks as designed and permitted in 2020 by CUII's engineering consultant, Baxter & Woodman?

A: No. In response to OUCC discovery asking if the Twin Lakes Headworks project (Table 1 in Mr. Grosvenor's case-in-chief testimony) was the same project included in the preapproval case, Petitioner responded "[n]o. The project is not the exact same project that was proposed in Cause No. 45389. However, the project will be similar, and the cost is based on the estimate prepared for Cause No. 45389." CUII has failed to explain the project it seeks to include in rate base and should also have prepared a cost estimate for the actual project it will be installing.

Q: Did you seek additional information about the headworks design flows and components?

A: Yes. However, in response to OUCC discovery, Petitioner stated that "[t]he project has not been designed as of yet."[7]

Q: What is the design status of the Headworks project?

A: In response to the OUCC's discovery request, CUII did not answer what design stage has been reached (e.g., preliminary planning, 30% design, 60% design, etc.). CUII again referred the OUCC back to its prior response that "[t]he project has not been designed as of yet."[8] It is unknown if CUII has hired an engineer for the design or whether design is currently underway. CUII's response is insufficient as support for its request, meaning that the OUCC cannot analyze the project design and its status.

[7] *See* Attachment JTP-2 for Petitioner's responses to DR 3-12 and DR 5-55 regarding the Headworks Design Summary (average and peak flows, number of units, type of grit removal system, type of screen, type of flow meter, etc.).

[8] Petitioner's response to DR 5-55 (d) regarding the design status of the Headworks project. *See* Attachment JTP-2.

Q: Why are you interested in knowing the project's design status?

A: CUII states the project will be in service before the end of the Future Test Year, September 30, 2023. Knowing whether design is underway and how close the design is to completion would assist the OUCC in assessing the likelihood the project can be permitted, bid, and completed by the end of the Future Test Year. A tight project schedule set to meet the Rate Base cutoff can also drive-up project costs, as extra costs can be incurred to expedite the work.[9]

Q: What is the permitting status of the Headworks project?

A: Petitioner reports the permitting process has not been started.[10]

Q: Is it accurate to say that the Headworks project has not been designed yet?

A: For this latest (third) version of the design, it may be accurate that the final plans have not been completed but CUII has already *fully designed and fully permitted* Headworks improvements twice before in 2016 (under Cause No. 44724) and again in 2020 (under Cause No. 45389).[11] CUII should be able to fully describe all major components that it seeks to construct. CUII should also be able to use the existing design drawings from the previous two permitted designs as the starting point for this design.

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[9] I testified in Cause No. 44724 that CUII needlessly incurred extra costs for the South Ground Storage Tank at Twin Lakes Water Treatment Plant #1 to place and cure concrete during a Polar Vortex when air temperatures dropped as low as 16 degrees below zero. Cause No. 44724, Public's Ex. 3, pp. 26-27.

[10] *Id.*, DR 5-55 (e). *See* Attachment JTP-2.

[11] *See* Attachment JTP-3 for IDEM Construction Permit No. 21843, Headworks Upgrade – 05/20/2016. The 2016 Headworks design by Strand Associates was based on the current design average and peak hourly flows of 1.1 MGD / 3.58 MGD. Improvements included an influent junction box, a new Headworks building, a mechanically cleaned fine step-screen and wash press, a forced vortex grit collector, grit washer, and grit pump, an influent 12-inch Parshall flume with an ultrasonic liquid level transducer, and conversion of the existing 9-inch Parshall flume structure to a second junction box with a backup influent ultrasonic transducer and weir structure.

Q: CUII assumes it will incur an additional $200,000 for engineering based on 10% of the construction costs to redesign the Headworks a third time. Is this reasonable?

A: No. At an assumed $125 to $150 per hour billable rate for engineering, this equals 1,333 - 1,600 total hours, which appears to be excessive. To produce a set of design drawings, a rule of thumb for estimating the engineering effort is that it takes about 40 hours per sheet to complete the design and prepare the drawings. Thus, the design should require only 560 hours based on 14 drawings.[12] Since CUII already has two sets of fully designed and permitted design drawings and two sets of specifications and bid documents, the actual time for a third design should be well under the 560 hours I calculated.

Q: Was WWTP capacity an issue in the preapproval case, Cause No. 45389?

A: Yes. CUII requested preapproval to replace its existing 1.1 MGD Twin Lakes WWTP with a higher capacity 1.6 MGD plant even though CUII acknowledged there would be little customer growth over the next twenty years and claimed continuing declining water use.[13] The Commission denied CUII's request for preapproval of $23,860,580 in expenditures pursuant to Ind. Code § 8-1-2-23, which included $4,148,088 for the Collection System Improvement Program ("CSIP") and $19,712,491 for the WWTP replacement project.[14] The Commission found:

[12] CUII's 2016 Headworks design by Strand Associates included 14 design drawings.

[13] Petitioner's response to DR 3-14, Cause No. 45389 was the Confidential Baxter & Woodman Basis of Design for the replacement WWTP which indicated there were 3,137 current customers in 2020 with an addition of only 43 new customers over the next twenty years (non-confidential).

[14] Final Order, Cause No. 45389 – 05/05/2021, pgs. 13-16.

CUII should prioritize its I&I program so that we can assess the impact of the I&I removal on any need to expand its WWTP. CUII is not subject to any enforcement action by IDEM, and we find that the current capacity of its WWTP, while approaching its limits, can provide reasonable service to its customers.[15]

Q: How did CUII's proposed WWTP capacity expansion compare to the existing WWTP capacities?

A: In Cause No. 45389, CUII proposed to expand the WWTP design average capacity by 45%. I compare the existing and proposed WWTP capacities in Table 1.

Table 1 – Comparison of Design Parameters between the Existing Twin Lakes WWTP and the Cause No. 45389 Proposed Replacement WWTP

Parameter	Existing WWTP[16]	Proposed WWTP[17]
Design Year	2000	2040
Twin Lakes Customers	3,137	3,180
Population	11,000	11,147
Type of Collection System	Sanitary Only	Sanitary Only
Design Average Flow	1.1 MGD	1.6 MGD
Peak Hourly Flow	3.58 MGD	4.8 MGD
Maximum Flow Capacity	Not Listed	6.6 MGD

Q: What was the proposed Headworks capacity CUII sought in Cause No. 45389?

A: CUII proposed installing two automated mechanical screens for flows up to 14.0

[15] *Id.*, p. 15. "We will not preapprove the projects CUII proposed in this Cause because we find that CUII has made no meaningful attempt to date to achieve I&I removal as set forth in the 44742 Order. A robust I&I removal program is long overdue and could alter and help better determine the identity and scale of the improvements needed, according to Mr. Parks' and Mr. Holden's testimony."

[16] *See* Attachment JTP-4, Construction Permit No. 10731 – Twin Lakes WWTP Upgrade (1.1 MGD / 3.58 MGD Peak) – 05/01/1997.

[17] *See* Attachment JTP-1, Construction Permit No. 23507 – Twin Lakes WWTP Expansion (1.6 MGD / 4.8 MGD Peak) – 06/10/2020.

MGD (both screens in service) but no grit removal system.[18] However, the construction permit included one vortex grit remover sized for 14.0 MGD.[19]

Q: Is the 14.0 MGD peak flow the correct flow that should be used for design of the Headworks project?

A: No. The 14.0 MGD design peak hourly capacity is too large. I testified in Cause No. 45389 that influent flow meter inaccuracies during high flows were caused by surcharging of the Parshall Flume.[20] This causes the peak flows to be overreported and inaccurate. It appears that CUII has not accounted for these erroneous peak flows and may be designing for excessively high flows.

Q: Has water usage declined?

A: Yes. I testified in the Cause No. 45342 water improvements preapproval case that CUII's water sold declined from 731,400 gallons per day ("gpd") (0.73 MGD) in 2001 to an average of 508,852 gpd (0.51 MGD) over the 2014-2018 period.[21] Water sold declined 30% over approximately 20 years.

Q: Have treated wastewater flows declined?

A: No. Effluent flow from Twin Lakes averaged 0.91 MGD between January 2012 and November 2021. The annual average effluent flow ranged between 0.74 MGD and 1.05 MGD as shown in Table 2.

[18] Case-in-Chief Testimony of Sean Carbonaro, Cause No. 45389 – 06/11/2020, pp. 48-49.

[19] *See* Attachment JTP-1, Construction Permit No. 23507 – Twin Lakes WWTP Expansion (1.6 MGD / 4.8 MGD Peak) – 06/10/2020, p. 11.

[20] Public's Exhibit No. 3, Cause No. 45389 – 09/30/2020, pp. 16-28.

[21] Public's Exhibit No. 1, Cause No. 45342 – 05/19/2020, pp. 28-30.

Table 2 –Twin Lakes WWTP
Annual Average Effluent Flow 2012-2021

Year	Annual Average Effluent Flow (MGD)
2012	0.81
2013	0.74
2014	0.94
2015	0.93
2016	0.96
2017	1.05
2018	0.93
2019	1.00
2020	0.88
2021 (thru November)	0.90
Ten Year Average Flow	0.91

Q: Have costs increased for the Headworks project since 2016?

A: Yes. It appears the project components and design flows have changed. Costs have more than doubled. In Cause No. 44724, CUII estimated the proposed 2016 upgrade cost at $1,072,503.[22] In Cause No. 45389, CUII's design engineer, Baxter & Woodman, estimated Headworks and other WWTP components costs but did not identify a separate all-inclusive total cost for just headworks that included site work, site piping, electrical, controls, and contingency.[23] In this cause, CUII lists a

[22] Case-in-Chief Testimony of Bruce T. Haas, Cause No. 44724 – 12/15/2015, pgs. 9 and 11. The proposed 2016 headworks project included one mechanically cleaned fine step-screen and wash press and one forced vortex grit collector, grit washer, and grit pump at an estimated cost of $1,072,503. However, CUII listed a higher $1,450,000 project cost in its IDEM permit application. In Cause No. 44724, CUII did not identify or explain the 35% higher cost it reported to IDEM. *See* Attachment JTP-3 for IDEM Construction Permit No. 21843, Headworks Upgrade – 05/20/2016.

[23] *See* Attachment JTP-2.

$2,296,298 cost for the Headworks project but did not provide any cost details or how it arrived at this cost in its Case-in-Chief Testimony. In response to OUCC discovery, CUII stated:

> The total cost for the Headworks Building includes: (i) the estimated cost of the facility at a 90% opinion of the probable cost multiplied by an inflation factor of 1.2, (ii) an additional 10% for engineering cost; and (iii) IDC and Cap Time costs. The engineering opinion is attached as OUCC 3.12 90% Simple OPC.[24]

This response does not identify what is being built, how CUII prepared the cost estimate, who prepared the estimate, the date it was prepared, what year the estimate represents, or what specific costs CUII relied on to prepare its cost estimate. In short, CUII's $2,296,298 cost estimate is unsupported.

Q: Did the OUCC ask further discovery about the Headworks project?

A: Yes. In follow-up discovery, Petitioner provided some cost breakout details.

> See Petitioner's Response to Data Request No. 3.12. The total cost for the Headworks Building includes: (i) the estimated cost of the facility at a 90% opinion of the probable cost multiplied by an inflation factor of 1.2, (ii) an additional 10% for engineering cost; and (iii) IDC and Cap Time costs. The engineering opinion is attached was [sic] OUCC 3.12 90% Simple OPC and shows a cost of $1,683,000. The amount added for inflation was $336,600. The estimated engineering cost [sic] are 10% of the project cost or approximate $200,000. The remaining approximately $75,000 represents cap time and IDC.[25]

Q: Have you calculated the cost based on CUII's response?

A: Yes. I tabulated the cost breakout details from CUII's response in Table 3.

[24] *See* Attachment JTP-2 for Petitioner's response to DR 3-12.

[25] *See* Attachment JTP-2 for Petitioner's response to DR 5-55.

Table 3 - 90% Opinion of Probable Costs - w. Grit (2020 Estimate)
Twin Lakes, IN - WWTP Expansion
CUII Project No. 2019021

Component	90% Design Opinion of Probable Cost	CUII Headworks Cost
Site Work	$788,000	Not included
Site Piping	$1,945,000	Not included
Influent Junction Chamber	$113,000	Not included
Headworks	$1,683,000	$1,683,000
Grit Collector	$791,000	Not included
Raw Sewage Pump Station	$1,012,000	Not included
All Other WWTP Costs	$11,156,000	Not included
Subtotal	$17,488,000	$1,683,000
Contingency at 10%	$1,748,800	Not specified
Total WWTP Cost	$19,236,800	NA
Inflation at 20%	Not specified	$336,600
Engineering at 10%	Not specified	$200,000
AFUDC and Captime[26]	Not specified	$73,302
Total Headworks Cost	Not specified	$2,296,298

Q: What is your opinion of CUII's cost estimate for the Headworks project?

A: I do not have confidence in CUII's cost estimate, as it is unsupported and probably low. It is missing components such as site work, site piping, the Influent Junction Chamber ($113,000), and the Grit Collector ($791,000). In response to follow-up discovery asking CUII to describe all Headworks improvements that CUII intends to build (e.g., influent sewer, influent meter, grit removal, screening, raw sewage

[26] CUII indicated AFUDC and cap time costs at approximately $75,000. The cost shown in the Table was adjusted to bring the total cost estimate to Petitioner's requested $2,296,298.

pump station, odor control, etc.), CUII responded:

> A new structure will be added to the head of the WWTP that will use a mechanical step screen to remove the non-biodegradable solids from wastewater. The new structure will also have a grit removal system to remove sand-like debris from wastewater before it enters the plant. Removal of these two types of solids will allow for more efficient solids removal and reduce future maintenance requirements within the WWTP as well as aid in the reduction of potential blockages and backups within the WWTP.[27]

Emphasis added.

CUII's response to OUCC DR 5-55 (b) confirms that CUII's Headworks cost estimate is missing a major component – the grit collector. In response to follow-up discovery about hydraulic capacities, Petitioner indicated it would have pumps but may have misunderstood that the OUCC's question (which pertained to the proposed Headworks project in this cause) referred to the Cause No. 45389 preapproval design. Petitioner stated:

> The influent junction chamber, metering structure, and screens have been designed to handle 14 MGD. The pumps are designed for 6.6 MGD. When 6.6 MGD is reached, "storm mode" is activated, and the flow is moved via gravity to the excess flow tanks.[28]

Petitioner included pump capacity but not the grit system capacity and used the past tense to state components *have been designed* even though it reported in response to OUCC DR 5-55 (c) that "[t]he project has not been designed as of yet."

[27] *See* Attachment JTP-2 for Petitioner's response to OUCC DR 5-55(b).

[28] *See* Attachment JTP-5 for Petitioner's responses to OUCC DR 9-1 (without the pdf printout of the WWTP hydraulic analysis in Excel) and OUCC DR 9-2.

Q: How do you interpret Petitioner's response to OUCC DR 9-2?

A: Although not stated in its Case-in-Chief Testimony, Petitioner may be installing the entire Headworks portion (Influent Junction Chamber, mechanical screens, grit removal, influent meter, and raw sewage pumps) of its WWTP replacement project with a peak design flow of 14.0 MGD that was denied approval in Cause No. 45389. The OUCC's data request and CUII's response did not list a grit removal system but did include the new raw sewage pump station. CUII did not seek to clarify the OUCC's question, and its response did not exclude a pump station.

Q: Did CUII's 2016 permitted design include grit removal?

A: Yes.

Q: Did CUII's 2020 permitted design include grit removal?

A: No and yes. In his Case-in-Chief Testimony, Mr. Sean Carbonaro testified:

> Grit collection is typical for a facility of this capacity, but is only designed at this phase and <u>will not be constructed</u> as part of the initial construction. The Company sampled throughout the facility and identified that grit is likely not enough of an operational concern to justify the costs.[29]
>
> Emphasis added.

This was CUII's reason for not including grit removal costs in Cause No. 45389. However, CUII permitted a vortex grit removal unit rated at 14.0 MGD.[30]

Q: What would the project cost be for all Headworks components except the raw sewage pump station?

A: Using Baxter & Woodman's costs from the 2020, 90% Opinion of Probable Cost, I calculate Headworks project costs including likely components would be

[29] Case-in-Chief Testimony of Sean Carbonaro, Cause No. 45389 – 06/11/2020, p. 46.

[30] *See* Attachment JTP-1, Construction Permit No. 23507 – Twin Lakes WWTP Expansion (1.6 MGD / 4.8 MGD Peak) – 06/10/2020.

$4,000,000 for 2023. I included allowances for site work and site piping.

Table 4 - 90% Opinion of Probable Costs - w. Grit
Twin Lakes, IN - WWTP Expansion (2020) and Headworks (2023)

Component	90% Design Opinion of Probable Cost 2020	OUCC Calculated Headworks Cost (based on Headworks and Grit Costs) 2023
Site Work	$788,000	$40,000
Site Piping	$1,945,000	$50,000
Influent Junction Chamber	$113,000	$113,000
Headworks	$1,683,000	$1,683,000
Grit Collector	$791,000	$791,000
Raw Sewage Pump Station	$1,012,000	$0
All Other WWTP Costs	$11,156,000	$0
Subtotal	$17,488,000	$2,677,000
Contingency at 10%	$1,748,800	$297,700
WWTP or Headworks Cost	$19,236,800	$2,944,700
Inflation at 20%	Not specified	$588,940
Engineering at 10%	Not specified	$351,404
AFUDC and Captime	Not specified	$114,956
Total Headworks cost	Not specified	$4,000,000

Q: What project components did Petitioner propose to build?

A: CUII proposes to install an automatic mechanical screen within a new Headworks building with electrical / control systems for the screen, and ventilation to mitigate corrosive sewer gases. CUII will relocate its wastewater sampler to the new Headworks Building. The project description did not list a grit removal system. It

is unclear if there will be more than one automated screen.[31]

Q: Has the Twin Lakes WWTP ever had automated mechanical screens?

A: No. The WWTP currently has a single bar rack but previously had two bar racks and a comminutor in an uncovered (open to the atmosphere) concrete Comminutor Structure.[32] Preliminary treatment is limited to capturing larger debris such as rags and trash on the bar rack. An operator manually removes the accumulated solids with a rake periodically. The Comminutor Structure has two parallel channels in a concrete pit structure. Initially, it had a bar rack followed by a comminutor in one channel for normal use and a second bar rack in a bypass channel for use when the comminutor was out of service for maintenance.[33]

Q: What is a comminutor?

A: A comminutor, also known as a grinder, shreds rather than removes smaller solids that pass through a bar rack. Its purpose is to prevent clogged or damaged downstream pipes and equipment while minimize floating solids on aeration basins, clarifiers, and other treatment tanks. Comminutors are typically used at smaller WWTPs (less than 1.0 MGD) such as Twin Lakes.

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[31] CUII filed a Motion for Administrative Notice in this Cause on December 7, 2021 for Attachment SC-2, Twin Lakes Wastewater Utility Preliminary Engineering Report in the Case-in-Chief Testimony of Sean Carbonaro, Cause No. 45389 – 06/11/2020 and CUII's 2020 Q1 Twin Lakes Wastewater Treatment Plant Estimate of Probable Construction Costs (CONFIDENTIAL), Cause No. 44724 – 04/30/2020. These two documents describe differing capacities and components for Headworks. However, CUII did not identify what specific facts from these documents it was requesting the Commission to grant administrative notice.

[32] The Twin Lakes WWTP was originally constructed in the 1960s.

[33] The bar rack at the Twin Lakes WWTP is labeled as a bar screen on the 1997 design drawings for the WWTP expansion project. They are inclined stationary vertical metal bars designed to capture large debris that could damage or clog downstream treatment processes, pipes, and pumps. CUII removed one bar rack and replaced the comminutor with a new grinder sometime in 1997-1998 and again in 2006.

Q: Is the Comminutor Structure still open to the atmosphere?

A: No. All three structures that currently comprise the headworks, including the Comminutor Structure, are enclosed to contain foul septic odors.[34]

Q: Why does CUII have foul septic odors at the headworks structures?

A: Petitioner had to enclose headworks following a series of utility decisions starting with CUII's choice in the 1990s not to find and remove excessive infiltration and inflow ("I&I") from the area near Lift Station L in the northeast part of the Lakes of the Four Seasons ("LOFS"). The I&I contributed to downstream sanitary sewer overflows ("SSOs") and basement backups during significant rain events. Rather than find and remove the I&I, Petitioner chose to divert sewage from 548 homes tributary to Lift Station L plus the I&I directly to the WWTP thereby bypassing areas affected by the SSOs and back-ups.

The shortest force main route would have been 1.8 miles around the east side of Lake Holiday. Instead CUII constructed a 4.3-mile force main west to Randolph Street, then south to 123rd Street, and then east to the WWTP. It appears CUII upsized the force main to 12-inches to "accommodate future development from the Randolph Street corridor.[35] CUII reported to IDEM that its completion of Lift Station L and its 4.3-mile-long force main eliminated the SSO occurrences.[36]

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[34] Current headworks structures include the influent manhole, the Comminutor Structure (with only a bar rack inside on the west side and a bracket / grating for the comminutor on the east side), the Parshall Flume Structure, and the Flow Splitter Structure. All structures are enclosed in a low wooden housing designed to prevent odor releases and are connected to an air scrubbing system with an activated carbon scrubber.

[35] *See* Attachment JTP-6 for Petitioner's response to OUCC DR 2-4 (a), Cause No. 45389 regarding the Lift Station L and Lift Station L force main construction permit application in 2003.

[36] *See* Attachment JTP-7 for Petitioner's correspondence with IDEM regarding the Lift Station L and force main project, April 10, 2003.

There are negative consequences of conveying wastewater through a long force main that CUII failed to recognize - primarily odors, solids deposition and corrosion of downstream structures caused by hydrogen sulfide forming sulfuric acid. CUII began receiving odor complaints from WWTP neighbors in 2004 following force main completion in July 2003. The force main discharges just upstream of the Comminutor Structure.[37] The foul odors and corrosive gasses are caused by septic wastewater created by long force main detention times.[38] To manage odor releases at the treatment plant, CUII enclosed the Comminutor Structure, the Parshall Flume Structure, and the Flow Splitter Structure sometime before 2013. By 2015, CUII had also installed an odor control system using activated carbon.[39] Enclosing the structure probably caused comminutor corrosion.

Q: What happened to the Twin Lakes comminutor?

A: CUII removed the comminutor in July 2013.[40] This comminutor cost $19,044 when CUII installed it new in June 2006.[41] It appears that for preliminary treatment, CUII relied on bar screens and a comminutor for over 40 years with similar flow volumes in later years to flows treated today. In Cause No. 44724 in 2015, CUII's witness

[37] CUII reported to IDEM that it completed the $2 million 700 gpm Lift Station L and force main in July 2003 "to divert the flow from about 548 homes in the areas that are experiencing sanitary sewer overflows ("SSOs") during significant rain events" to the WWTP. *See* Attachment JTP-7 for correspondence with IDEM regarding Lift Station L and odor complaints.

[38] The detention time in the force main exceeds 13 hours calculated as the total volume of the 8-inch and 12-inch force main of 131,000 gallons divided by the average daily flow of 232,200 gpd from 548 homes (Lift Station L) at 3.1 people per house times 127 gpcd and 53 homes (Lift Station K) at 310 gpd per home.

[39] Based on the OUCC's review of aerial photos from Google Earth Pro.

[40] *See* Attachment JTP-8 for Petitioner's response to DR 3-11, Cause No. 45389 – 09/08/2020.

[41] *See* Attachment JTP-9 for Petitioner's Exhibit CKM, Case-in-Chief Testimony of Christopher K. Montgomery, Cause No. 43128 – 11/13/2006, p 7 and Petitioner's Exhibit CKM-4.

Mr. Bruce T. Haas testified:

> The sewage grinder (comminutor) originally in operation at the WWTP headworks structure failed and has been removed from service and a manual bar screen has been temporarily used in its place."[42]

In response to OUCC discovery in Cause No. 45389 in 2020, CUII stated:

> The Company removed the comminutor in approximately July 2013. The Company did not replace the comminutor because the comminutor did not resolve rag issues in the treatment process and instead installed the manual bar screen. The Company identified that the debris ground by the comminutor would reconstitute and tangle later in the treatment process.[43]

Q: What is your opinion about CUII installing the manual bar screen instead of repairing or replacing the comminutor?

A: CUII's statement about installing the manual bar screen is inaccurate. Manual bar screens have always been present at Twin Lakes. CUII should not have had to install one when the comminutor failed in 2013 unless the existing bar screen had some maintenance problem such as corrosion from sewer gas. Bar screens have minimal maintenance issues since they have no moving parts and require only periodic raking to remove accumulated screenings. I previously testified the Twin Lakes Comminutor Structure includes two parallel channels with bar screens designed for both sides (but only one is present) and one comminutor previously located after the bar screen in one channel (comminutor is removed – only the comminutor brackets are in place).[44] Comminutors (shredders) have been allowed

[42] Bruce T. Haas Case-in-Chief Testimony, Cause No. 44724 – 12/15/2015, p. 11.

[43] *See* Attachment JTP-8 for Petitioner's response to DR 3-11, Cause No. 45389 – 09/08/2020.

[44] Petitioner's response to OUCC DR 2-5 (a), Cause No. 45389 – 08/25/2020 regarding the Record Drawings for the 1997-1998 Twin Lakes WWTP Expansion project.

in accordance with wastewater design standards for screening devices since 1951. Bar screens have also been required at WWTPs since at least 1951 as presented below.

> Preliminary Treatment Units
>
> 2. Screening Devices
>
> A. Bar Screens
>
> (1) Where Required: It is recommended that all sewage treatment plants provide protection for pumps and other equipment by installing coarse bar screens or screens used in conjunction with mechanical shredders. All equipment should be readily accessible for maintenance. A bar rack should precede mechanically cleaned grit chambers. [45]

CUII's statement that it chose to rely only on a bar screen since 2013 to capture screenable materials also does not make operational sense. CUII appears to be asserting that the disadvantage of shredded debris/screenings subsequently reconstituting outweighs the potential for far greater and more likely plugging problems downstream caused by larger, unshredded debris passing through the bar screen. My engineering opinion is the benefit of the comminutor is that *it shreds and passes smaller pieces through the comminutor,* thereby preventing comminutor blinding that would back up sewage flow and downstream plugging caused by large pieces of debris. CUII's logic to choose a bar screen only, versus repairing the failed comminutor or replacing it with a new comminutor, runs contrary to the advantages of comminutors.

[45] Tentative Standards for Sewage Works (commonly called Ten States Standards), Upper Mississippi River Board of Public Health Engineers and Great Lakes Board of Public Health Engineers, January 1951. The current 2014 Edition also allows comminutors to be installed for preliminary treatment.

Q: Does IDEM still permit comminutors notwithstanding CUII's claim that shredded debris reconstitutes downstream?

A: Yes. American Suburban Utilities' ("ASU") 3.0 MGD Carriage Estates WWTP has dual 4,600 gpm (6.6 MGD) comminutors (also known as macerators) that were installed within the last several years. IDEM also renewed the Twin Lakes WWTP NPDES permit in 2018 and noted CUII's use of a bar screen and comminutor.[46]

Q: What does a comminutor cost?

A: Comminutors are readily available and are lower-cost pieces of treatment equipment. The comminutors at ASU cost approximately $30,000 each.[47]

Q: Has IDEM notified CUII that its removal of the comminutor is a problem?

A: Yes. During Twin Lakes' most recent Compliance Evaluation Inspection on December 20, 2021, the IDEM inspector noted CUII had removed the comminutor.

> The permit was given an overall rating of *unsatisfactory because the comminutor listed within the permit was removed from the facility*. Either the equipment will have to be returned to service or the permit will have to be modified to remove the treatment equipment.[48]

Emphasis added.

CUII reported it would be modifying the NPDES to remove the comminutor and would be installing a second bar screen.

Q: What was the reason CUII provided to justify its proposed $2,296,298 Headworks project?

A: Petitioner claimed that the "headworks hydraulic capacity is inadequate and leads

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[46] Final NPDES Permit No. IN0037176, Community Utilities of Indiana, Inc. (formerly known as Twin Lakes Utilities, Inc.) Wastewater Treatment Plant – 04/02/2018, p. 2 of 29.

[47] *See* Attachment JTP-10 for the cost estimate for the two comminutors at American Suburban Utilities prepared by Marcene Taylor, Inc., Attachment MT-1 to Petitioner's Exhibit No. 3, Responsive Testimony of Marcene Taylor, Cause No. 44676 S1 – 03/24/2021, p. 30 of 40.

[48] *See* Attachment JTP-11 for the Inspection Summary/ Noncompliance Letter, Community Utilities WWTP, NPDES Permit No. IN0037176 – 12/20/2021 and CUII's response to IDEM's letter – 01/14/2022.

to surcharging of the collection system. Basement backups in customers' houses have been observed due to inadequate headworks capacity."[49]

Q: Did CUII provide any evidence in its Case-in-Chief Testimony that the Headworks are the cause of basement backups or SSOs?

A: No. CUII witness Loren Grosvenor provided a list of Twin Lakes Collection System Sanitary Sewer Overflows since 2008 but not one of the listed back-ups or SSOs were attributed to inadequate headworks hydraulic capacity at the WWTP.[50]

Q: Did the OUCC follow-up with CUII to determine when these basement backups might have occurred?

A: Yes. The OUCC asked CUII to support its statement about the need for the Headworks project and to state the dates in the last five years that basement back-ups or SSOs occurred (which CUII asserts were caused by blinding of the manually cleaned bar screen or by capacity issues not caused by blinding of the manually cleaned bar screen). CUII responded:

> CUII cannot definitively say that blinding of the manually cleaned bar screens has itself directly caused basement back-ups, but it does, at a minimum, contribute to them. The blinding of the manual bar screens creates sewers to be surcharged in the gravity collection system. As a result, CUII has seen basement back-ups just upstream of the headworks on the gravity collection system. Moreover, to prevent blinding CUII personnel must be ready to manually clean the bar screens any time adverse weather is predicted. A list of basement back-ups and SSOs was provided in response to Data Request No. 4.11.[51]

[49] Petitioner's Exhibit No. 3, Case-in-Chief Testimony of Loren Grosvenor, p. 26.

[50] Attachment LG-1, SSO Summary, Petitioner's Exhibit No. 3, Case-in-Chief Testimony of Loren Grosvenor.

[51] *See* Attachment JTP-5 for Petitioner's responses to OUCC DR 9-1 and DR 9-2.

Q: Were any basement back-ups or SSOs listed in CUII's response to OUCC DR 4-11 attributed to inadequate Headworks hydraulic capacity?

A: No. Both Attachment LG-1 and the list provided in response to DR 4-11 included a column labeled "Reason for Bypass / Overflow" but none of the listed reasons included inadequate headworks hydraulic capacity, blinding of the bar screen or blinding of the comminutor (pre-July 2013).

Q: In Cause No. 44724 why did you oppose the Headworks project?

A: I recommended the Commission disallow the 2016 Headworks project because CUII had not justified the projects' need and had not supported the estimated costs. I recommended that CUII properly develop and evaluate alternatives at the Twin Lakes WWTP for phosphorus removal, sludge storage, and headworks improvements under a single project that, due to its size, would attract more contractor interest in a competitive bid.[52] I also recommended that the Commission order CUII to conduct a life cycle analysis of the alternatives for phosphorus, sludge storage, and headworks to determine the lowest cost option.[53]

Q: Did CUII conduct a life cycle cost benefit analysis?

A: No.[54] It appears CUII has not identified alternatives to the Headworks project and did not perform a life cycle cost benefit analysis. Indiana Code Ch. 13-18-26 now requires permit applicants to certify that a life cycle cost-benefit analysis, as described in I.C. § 13-18-26-3 has been prepared and completed for new facilities

[52] Petitioner's response to OUCC DR 10-17 indicated "[c]urrently CUII doesn't have plans to install a second sludge storage tank." In Cause No. 44724, CUII proposed a second sludge tank for solids handling to meet NPDES phosphorus limits and provide redundancy to take one tank offline for inspection or maintenance.

[53] Public's Exhibit No. 3, Cause No. 44724 – 04/22/2016.

[54] *See* Attachment JTP-12 for Petitioner's responses to OUCC DR 10 questions pertaining to the proposed Headworks project, O&M cost estimates and life cycle cost analysis.

and/or facility expansions with a design capacity above 0.10 MGD.[55]

Q: In the Cause No. 45389 preapproval case, did you oppose the Headworks portion of the WWTP replacement project?

A: I opposed the 14.0 MGD *capacity* of the WWTP project because of influent flow meter errors, but supported adding both preliminary treatment processes, screening, and grit removal, along with a chemical phosphorus removal system at the WWTP. I noted the WWTP does have screening issues, does not remove grit and has peak flows imposed on the plant due to excessive I&I. I noted internal piping appears to be limited in size and prone to clogging, and coupled with hydraulic limitations of existing structures, causes the WWTP to be a flow bottleneck. Internal piping clogs are more likely without the comminutor in service due to larger unshredded debris entering the WWTP.

Q: Do you recommend CUII proceed with the Headworks project as proposed in this Cause?

A: No. I recommend the Commission disallow the Headworks project because CUII has again:

(a) not adequately described what it plans to construct;

(b) not identified the design capacities;

(c) failed to justify the projects' need;

(d) not supported its estimated costs; and

(e) not identified alternatives or performed a life cycle cost benefit analysis. More importantly, I recommend the Commission disallow including the Headworks

[55] *See* Attachment JTP-13 for information on the required Life Cycle Cost Benefit analysis, Asset Management Plans, and Cybersecurity Plan.

project in Rate Base because there is a far less costly alternative to build and operate that addresses screenings and prevents potential hydraulic back-ups at the WWTP.

Q: What would the rate impact be on customers if CUII builds the $2,296,298 Headworks project as proposed?

A: Based on CUII's estimated $2,296,298 capital cost and an allowance of $40,000 per year for operations and maintenance (power, operator labor, grit disposal, screenings disposal, etc.), I estimate customers' monthly sewer bills would rise by approximately $7.25 per month or $86.50 per year.[56] For the $4,000,000 capital cost estimate shown previously in Table 4 that includes grit removal and the influent junction chamber and an assumed increase to $60,000 for O&M, the annual revenue requirement would rise to $487,200 and the customer impact would rise to $148 per year or $12.00 per month.

Q: What is the alternative to the mechanical screens and what would be the cost to ratepayers?

A: CUII should return to operating as it did prior to 2013 by installing a replacement comminutor with a bar screen in the bypass channel per the original design. Based on a $30,000 cost for the comminutor, I estimate the total capital cost including all electrical and controls would be under $50,000. Operating costs would be minimal and would consist mainly of power costs for the comminutor and ventilation. I estimate these costs at $10,000 per year. Operators would still need to perform routine checks of the equipment for any blinding of the bar screens or comminutor.

[56] Calculated as $2,296,298 capital cost multiplied by the sum of the 8.18% weighted average cost of capital and annual 2.5% depreciation equals $245,245 per year plus the $40,000 annual allowance for O&M equals a revenue requirement of $285,245 per year. Divided by 3,300 customers, the Headworks project would add $86.50 to customers' bills per year or approximately $7.25 more per month.

The shredded screenings would end up in the sludge and be digested and then land applied. There would be no separate charge for screenings or grit disposal. I estimate the cost to ratepayers would be $4.65 per year or $0.40 per month.

CUII's proposed Headworks projects' capital cost is over forty times more costly than the comminutor alternative and four times more costly to operate. Enough savings are generated that CUII could replace the comminutor with a new comminutor every year and still be far below the rate impact of its proposed Headworks project. If corrosion from sewer gasses caused the comminutor failure in 2013, CUII should evaluate minimizing the buildup of these gasses within the Comminutor Structure's enclosed space.

From examining photos included in CUII's responses to OUCC DRs 10-3 and 10-4, it appears CUII mainly has a problem with clogged bar screenings that it seeks to solve with a high cost and unneeded capital project. For four decades, the comminutor effectively shredded screenable materials. I could not find any record prior to 2015 indicating comminutor issues other than periodic replacement. The lowest cost option in 2013 and now is to replace the comminutor. CUII chose to rely on its bar screen. However, CUII staff must manually clean it. The O&M problem appears to be that CUII does not keep it cleaned as seen in the photo of the fully clogged bar screen (OUCC DR 10-3) that shows how high the sewage reached on the bar screen. With a restored comminution, such blinding would be prevented because solids are ground up and flow passes through the comminutor.[57]

[57] *See* Attachment JTP-12 for Petitioner's responses to OUCC DR 10 questions about Headworks.

Q: What about the WWTP flow bottlenecks due to internal piping?

A: The undersized piping between the Flow Splitter Structure and Package Plant would remain whether CUII installs the more expensive mechanical screen or reinstalls the comminutor. CUII currently overcomes this internal piping problem with portable trash pumps. CUII can best address this issue by removing excessive I&I from its collection system and by enlarging the piping to the Package Plant.

Q: What are your recommendations regarding inclusion of the Headworks capital project in rate base?

A: I recommend that the Commission disallow the project in its entirety because it is far less expensive for CUII to reinstall the comminutor. This is true for the scenario where CUII has to replace the comminutor more often due to equipment corrosion within the enclosed Comminutor Structure.

II. CHEMICAL BUILDING / OFFICE BUILDING

Q: Does Petitioner propose to construct a new Chemical Building / Office Building at the Twin Lakes WWTP?

A: Yes. Loren Grosvenor, CUII's State Operations Manager, testifies CUII will build a new Chemical Building / Office Building for $500,000.[58]

Q: What does CUII propose for the Chemical Building / Office Building?

A: CUII does not provide any details in its case-in-chief about the building, such as the square footage, number of stories, or support for its estimated $500,000 building cost. CUII refers to the Baxter & Woodman design and cost estimate in the Cause No. 45389 preapproval case. However, in that cause, the Operations Building cost estimate was $1,549,900 (including 10% contingency), not the $500,000 requested

[58] Table 1, Case-in-Chief Testimony of Loren Grosvenor, pp. 16, 27-29.

in this case. CUII proposes to replace the office space that the Company currently rents, which includes three offices and a conference room seating eight people.

Q: Does CUII provide the basis for the $500,000 cost it wants to include in Rate Base?

A: Loren Grosvenor's testimony did not explain the estimate but stated that Baxter & Woodman provided a high-level estimate for the Office Building of $500,000. He noted the rate model uses an incorrect projection of approximately $273,000 for the Office Building which CUII will correct in its rebuttal testimony.

Q: Has CUII previously indicated it would build new offices at the Twin Lakes WWTP?

A: Yes. In Cause No. 43128, CUII included new Offices costing $325,000 in its five-year capital projects plan. CUII indicated it would build the offices in 2007. In a supplemental response to LOFS DR 3-2, CUII explained why it needed new offices.

> The existing TLU office is very cramped and does not allow for operators to perform office work efficiently. For example, the operators currently must share desks. Additionally, paperwork is stored in different places because of the lack of space and meetings are held in a garage area.
>
> This project has not started, and the location of a new facility as proposed has not yet been determined. Options that TLU intends to explore include locating the office facility at the WWTP site, or on property purchased for a well site that would be large enough to include an office facility or renting local office space.[59]

Q: Did CUII build the new offices in 2007?

A: No, CUII instead rented office space in a commercial building located at the southeast corner of Randolph Road and 109th Avenue. CUII continues to rent this office space. In response to discovery, CUII indicated the previous rent was $775

[59] Petitioner's supplemental response to Lakes of the Four Seasons DR 3-2, Cause No. 43128.

per month which increased in May 2021 to $1,353 per month.[60]

Q: Why else does CUII testify it needs a new chemical / office Building?

A: CUII testifies there is an urgency to constructing the new building because it is needed to house the phosphorus treatment equipment since the equipment currently is maintained in CUII's garage pursuant to a *temporary IDEM permit*. Mr. Grosvenor testifies that he believes having this chemical equipment in the garage will be problematic in the future.[61]

Q: Do you agree that keeping the phosphorus equipment in CUII's garage is problematic?

A: No, not at all. The equipment consists of several portable alum "tote"[62] tanks and metering pumps to dose it into the sewage at the Flow Splitter Structure. This equipment can permanently stay in the CUII garage. CUII indicated the phosphorus system cost was $50,000 on its construction permit application to IDEM.

Q: Do you agree that IDEM issued a temporary construction permit?

A: No. Mr. Grosvenor is mistaken that CUII's construction permit somehow limits CUII to only temporarily storing the alum and using the phosphorus equipment in the CUII garage. IDEM did not issue a temporary construction permit. IDEM issued a construction permit for a phosphorus removal system that CUII's engineer, Baxter & Woodman indicated would be temporary until a biological phosphorus removal system was installed. The biological phosphorus system was part of the

[60] Petitioner's response to DR 5-21.

[61] *See* the Case-in-Chief Testimony of Loren Grosvenor-12/07/2021, pgs. 27-28.

[62] "Totes" are fully contained chemical storage bins that are enclosed and do not have chemicals exposed to the open air. Therefore, the airborne inhalation hazard cited by CUII is not a threat to CUII employees, because the alum is not being dispersed into the storage area.

replacement WWTP project for which CUII sought preapproval but which the Commission denied. CUII's construction permit described the proposed project.

> An expansion project for this facility is currently in the design phase, which includes provisions for biological Phosphorus removal. However, these improvements will not be completed in time to meet the facility's three-year compliance schedule to meet Phosphorus limits. It is proposed to install a temporary chemical feed system which will inject Aluminum Sulfate (Alum) into the influent splitter structure at the facility to achieve Phosphorus removal in the interim until permanent Phosphorus removal facilities can be constructed with the expansion project.

Q: Will CUII be able to abandon chemical phosphorus removal if it changes to a biological phosphorus system?

A: No. IDEM requires back-up chemical phosphorus removal systems.

Q: Do you agree that the alum storage and metering equipment in the CUII garage poses an unacceptable hazard to operators?

A: No. As with any treatment chemical, operators need to know how to properly handle the chemical. This is the same for chlorine bleach for disinfection or alum which is commonly used in water treatment, in wastewater treatment for removing phosphorus, and in making pickles. CUII's permitted design included the required combination emergency shower and eyewash station to address any exposure.

Q: What would the rate impact be on customers if CUII builds the $500,000 chemical / office building project as proposed?

A: Based on CUII's estimated $500,000 capital cost and an allowance of $10,000 per year for utilities, power, and building maintenance, I estimate customers' monthly sewer bills would rise by approximately $1.60 or $19 per year.[63]

[63] Calculated as $500,000 capital cost multiplied by the sum of the 8.18% weighted average cost of capital and 2.5% depreciation per year equals $53,400 per year plus the $10,000 annual allowance for building utilities and maintenance equals a revenue requirement of $63,400 per year. Divided by 3,300 customers, the Headworks project would add $19 to customers' bills per year or approximately $1.60 more per month.

Q: What is your recommendation for the chemical / office building?

A: I recommend the Commission disallow this project in its entirety. CUII can continue to use its chemical phosphorus system that is housed in the CUII garage. CUII staff should continue using the leased office space. Given the Commission's clear direction in Cause Nos. 44724 and 45389 that CUII focus on its collection system to find and remove excessive I&I, CUII should not be pursuing lower priority capital projects such as new offices.

Q: Do you have any other concerns about the chemical phosphorus system?

A: Yes. Petitioner overreports alum usage by about 45% for the Future Test Year. Petitioner seeks an operating expense for alum based on using 2,500 gallons per month. This is 45% higher than the 1,725 gallons per month average usage calculated from actual alum usage that CUII reports to IDEM on its Monthly Reports of Operation ("MROs").

III. TWIN LAKES LIFT STATION L FORCE MAIN REPLACEMENT

Q: Please describe the Lift Station L Force Main Replacement project.

A: CUII proposes to replace 1,101 linear feet ("LF") of existing 8-inch force main with new 12-inch pipe that matches the force main's predominant 12-inch size.[64]

Q: Does CUII have a Master Plan for the Twin Lakes Sewer System that addresses the proposed replacement of 1,101 LF of existing 8-inch force main?

A: No.

[64] CUII installed the 8-inch force main between Randolph St. and Kingsway Dr. in 1998, CUII does not discuss the 14-inch diameter force main along 123rd Avenue near the WWTP.

Q: Did CUII have an Asset Management Plan ("AMP") in previous causes?

A: In Cause No. 44646 (DSIC), CUII provided a ten-page draft AMP that CUII noted had not been finalized through the proper channels of authority.[65]

Q: Does CUII currently have an AMP for the Twin Lakes Sewer System?

A: In response to discovery asking for the current Master Plan and current AMP, CUII reported

> Petitioner is currently in the process of creating and revising its Asset Management Plan (or Master Plan), which revisions have not been completed. Once done, the Master Plan/Asset Management Plan will be intended to be a living breathing document. Petitioner is attaching a copy of the draft which will be updated in 2023 when a new Project Manager is retained. The Asset Management Plan is the "Master Plan."[66]

Q: What has CUII provided showing detail of its existing assets?

A: CUII provided several attachments including an Excel spreadsheet with a tab named UI Vertical Asset Register. Other than lift stations, I could not find any information about CUII's buried sewer assets such as the Lift Station L force main.

Q: Prior to this Cause, were you aware of CUII's claimed loss of capacity for its Lift Station L force main?

A: No. To my recollection, this is the first time the OUCC has heard about CUII's claimed loss of capacity. I was aware that overall, CUII did not install means for periodic force main cleaning (known as pigging) that includes equipment, valves, and pig launching stations. In the Technical Conferences and in the preapproval case (Cause No. 45389), I discussed the lack of force main cleaning and clogged impellers at lift stations as possible contributing causes of longer pump run times at lift stations. CUII appears to have interpreted this solely as an indication of higher

[65] Petitioner's response to OUCC DR 1-14, Cause No. 44646 – 07/21/2015.

[66] Petitioner's response to OUCC DR 5-50.

flows (i.e., an infiltration and inflow ("I&I") problem) rather than an inability to move the sewage due to partially clogged pumps or force mains .

Q: Was Lift Station L part of the original Twin Lakes sewer system in the 1960s?

A: No. Lift Station L was not added until well after the tributary area to Lift Station L was built out (i.e., homes built on nearly all lots).

Q: When did CUII install Lift Station L?

A: CUII installed Lift Station L and its force main in 2003.

Q: Why was Lift Station L built?

A: Based on my review of the 1998 Surcharge Relief Study, it appears Lift Station L was built "to alleviate surcharging of the Twin Lakes Golf Course sanitary sewer" that caused downstream sanitary sewer overflows from manholes in the northeast part of Lakes of the Four Seasons.[67] Despite I&I reduction efforts prior to 2002, CUII did not remove the I&I that was causing the surcharging and overflows. CUII instead chose to relieve the surcharging by building Lift Station L and a new force main directly to the WWTP to bypass the gravity sewers in the problem areas.

Q: Please describe Lift Station L.

A: Lift Station L, located next to 1521 Happy Valley Road, was originally constructed as a 700-gpm duplex submersible lift station to divert I&I and sewage from 548 homes to the WWTP.[68] CUII installed new higher capacity Flygt submersible pumps in 2017.[69] From my inspection of the pump curve, the new pumps are 60

[67] Petitioner's response to DR 6-1, Cause No. 45389 Golf Course Surcharge Relief Study, RHMG Project No. 9801020, Rezek, Henry, Meisenheimer and Gende, Inc., 05/13/1998.

[68] The original 700 gpm pumps were specified as 75 HP, 1,150 rpm Peabody Barnes pumps at 150 feet Total Dynamic Head ("TDH"). *See* Attachment JTP-14.

[69] 2020 IURC Annual Report, p. S-6.

HP, higher speed 1,775 rpm pumps with an unstated duty point that I read as 1,075 gpm at 129 feet Total Dynamic Head ("TDH").[70] In response to discovery, CUII reported that fewer than 529 homes are currently connected to Lift Station L, which now has a 2018 tested pumping capacity of 1,114 gpm (one pump operating) to 1,320 gpm (both pumps in service).[71] Lift Station L has a permanent standby generator and pressure gauges, but not a flow meter on its discharge that could be used to track flow rates.

Q: Did Strand Associates recommend that CUII monitor lift station flows?

A: Yes. In its 2007 Study, Strand recommended that [f]low meters should be installed upstream of the influent meter at the wastewater treatment plant (because the meter appears to be unreliable at high flows) and upstream of Lift Stations C, D, and L, at a minimum. These locations should provide a good indication of the relative success of the I/I reduction program."[72]

Q: Did CUII previously propose to install flow meters and pressure gauges on the force mains from Lift Stations B, C, and D?

A: Yes. Flow meters and pressure gauges were a small part of CUII's proposed $4,148,088.50 Collection System Improvements Project ("CSIP") proposed in the

[70] Petitioner's response to DR 6-9, Cause No. 45389 – 09/14/2020, p. 7 of 13.

[71] "The current capacity of pump 1 is 1,114 gpm and pump 2 is 1,257, and the combination is 1,320 gpm." Petitioner's response to DR 5-52. *See* also Attachment SC-11 Part 1, p. 33 of 100 and Part 2, pgs. 31 to 35 of 77 to the Case-in-Chief Testimony of Sean Carbonaro, Cause No. 45389-06/11/2020 for additional technical information regarding Lift Station L, including pump tests.

[72] *See* Attachment JTP-2 to Public's Exhibit No. 3, Cause No. 45389 – 09/30/2020, for Petitioner's response to OUCC DR 2-7, *Sewer System Evaluation Study*, Strand Assoc., Inc., Dec. 2007, p. 3-2 (p. 15 of 88).

preapproval case, Cause No. 45389.[73] CUII proposed upgrading Lift Stations B and C with increased capacity, constructing a new higher-capacity replacement Lift Station D, and constructing new force mains from Lift Station B to Lift Station D and from Lift Station D to the WWTP. The project's intent was to improve conveyance in tributary areas to Lift Stations B, C, and D, divert sewage around problem areas, and reduce incidences of basement backups and manhole overflows.[74]

Q: Did you recommend the Commission grant preapproval for the CSIP?

A: No. I opposed the CSIP because CUII had not addressed I&I in its system as directed by the Commission in Cause No. 44724. Further, CUII's proposed lift station projects would impose higher peak flows onto the WWTP. However, I supported metering lift station flows and adding pressure gauges. I testified as follows:

> I do not support CUII's proposed CSIP but do recommend CUII install pressure gauges and flow meters as proposed at Lift Stations B, C, and D. These improvements should also be made at Lift Stations J, and L so that accurate flow readings can be obtained from the two lift stations discharging at the WWTP. The improvements will also help in troubleshooting pumping problems at the lift stations. I also recommend installing area velocity meters in the sewer upstream of the WWTP (possibly at the locations of Flow Monitors 17 and 18 - 2018 Metering and Modeling Study by Strand Associates) and I would recommend CUII also install meters at the locations it knows are flow bottlenecks in its collection system or in areas that experience basement backups.[75]

[73] Attachment SC-40A Twin Lakes Sanitary Sewer Improvements, Phase 1, Lift Stations B, C, and D, RHMG Engineers, Inc., March 6, 2020, to the Case-in-Chief Testimony of Sean Carbonaro, Cause No. 45389 – 06/11/2020, p. 20 of 32.

[74] Case-in-Chief Testimony of Sean Carbonaro, Cause No. 45389 – 06/11/2020, pp. 23-24.

[75] Public's Exhibit No. 3, Cause No. 45389 – 09/30/2020, p. 27.

Q: Did CUII install the flow meters and pressure gauges that it proposed?

A: No. CUII also has not yet installed flow meters on the influent sewers just upstream of the WWTP as recommended by Strand Associates in 2007 and the OUCC.[76]

Q: Do you still believe CUII should add the meters and pressure gauges?

A: Yes. The addition of the meters and pressure gauges are relatively low cost and would greatly assist CUII in tracking flows and in locating and removing areas with excessive I&I in its collection system. The flow meters would also help assess lift station and force main performance issues and the effectiveness of I&I removal efforts.

Q: Please describe the Lift Station L force main.

A: Lift Station L's force main was built through three separate projects from 1998 to 2003. The first segment was the original 8-inch PVC force main from the 300 gpm Seasons Pointe Lift Station (Lift Station K) that appears to have been installed in 1998.[77,78] This force main pumped sewage east to Manhole No. 422 on Kingsway Drive.[79] The second segment, upsized to 12-inch to serve an additional 3,620 people from future developments along Randolph Street, appears to have been built before 2003 to initially serve the proposed 200 apartment Four Winds Development on the east side of Randolph Street near 117th Avenue.[80] From 117th Avenue, a 12-

[76] *See* Attachment JTP-14 for Petitioner's response to DR 10-23 regarding flow meters on the influent sewers.

[77] 2003 IURC Annual Report, p. S-6 Supplemental.

[78] IDEM Construction Permit Approval No. 10932, Lift Station K and its' 8-inch PVC force main.

[79] *See* Attachment SC-1 Twin Lakes Collection System Map 03/30/2020 in the Case-in-Chief Testimony of Sean Carbonaro, Volume 1, Cause No. 45389 – 06/11/2020.

[80] *See* Attachment JTP-15 for the description of the Lift Station L project by the design engineer, RHMG, Inc. provided as Attachment SC-39 to the Case-in-Chief Testimony of Sean Carbonaro, Volume 8, Cause No. 45389 - 06/11/2020, pp. 26-29.

inch PVC force main (7,061 LF) runs south along the east side of Randolph Street to 123rd Avenue and then turns east along the north side of 123rd Avenue. The force main enlarges to a 14-inch HDPE pipe (1,061 LF) and continues to the Twin Lakes WWTP.[81] The Four Winds Development went bankrupt and was not built. The east side of Randolph Street is now within the Town of Winfield's corporate boundary and sanitary sewer service area.[82] There are no customers connected to the force main south of the Lift Station K tie-in point and it is unlikely additional customers along Randolph Street will connect to CUII's collection system.

Lift Station L and the third segment of the force main were reportedly built in 2003. This 12-inch PVC segment runs west from Lift Station L mainly along a golf course route and connects to the existing 8-inch segment at Kingsway Drive near Manhole No. 422. CUII repurposed the original 8-inch PVC force main that flowed east from Lift Station K by reversing the flow direction west to Randolph Street. Here Lift Station K connects to the Lift Station L force main. At Randolph St., CUII ran a 12-inch PVC force main south along the east side of Randolph St. to tie into the previously constructed second segment at 117th Avenue.

Q: What is the total length of the Lift Station L force main?

A: It is unclear, as there appear to be discrepancies in the reported lengths. On the IDEM Sanitary Sewer Design Summary Form stamped April 15, 2003, CUII's engineer RHMG listed the total length at 18,252 LF. On the Pipe Location

[81] *See* Attachment JTP-14 for Petitioner's response to OUCC DR 5-60, Attachment Jordan 04/15/2003 Letter IDEM - Lift Station L regarding the construction permit application for Lift Station L and the Lift Station L force main that references IDEM Construction Permit Approval No. 13962.

[82] Town of Winfield, Indiana Sanitary Master Plan, DLZ Indiana, Inc. January 26, 2016.

Summary Sheet dated April 14, 2003, RHMG listed 20,512 LF. In the hydraulic calculations, RHMG lists 18,244 LF.[83] Baxter & Woodman listed the pipe length at 22,800 LF made up of 21,799 LF of 12-inch PVC pipe and 1,101 LF of 8-inch PVC pipe.[84]

In addition, there are discrepancies in the reported pipe diameters. On the IDEM Design Summary Form, RHMG listed 1,160 LF of 14-inch HDPE pipe.[85] In the Contract Documents for the proposed Sanitary System Improvements for Lift Stations "C" and "L" the Lift Station L force main is shown as 14-inch along 123rd Avenue.[86] On the 2020 design drawings for CUII's proposed replacement WWTP, Baxter & Woodman showed a 14-inch diameter force main along 123rd Avenue that discharged at the WWTP.[87]

Q: Does CUII have Record Drawings for Lift Station L and the three separate segments of the force main?

A: No. It appears CUII does not have Record Drawings showing actual construction. In response to a request for Record Drawings for Lift Station L and the force main, CUII provided only the "For Construction" (design) drawings for Lift Station L and the force main's third segment constructed in 2003. CUII did not provide any

[83] *See* Attachment JTP-14.

[84] Attachment LG-6 *Lift Station L Force Main Cleaning and Replacement Design Memo*, Baxter & Woodman, September 9, 2021 to the Case-in-Chief Testimony of Loren Grosvenor – 12/07/2021. p. 1.

[85] *See* Attachment JTP-14.

[86] Petitioner's supplemental response to OUCC DR 27-9, Contract Documents for the proposed Sanitary System Improvements for Lift Stations "C" and "L", RHMG Engineers, Inc. 04/05/2016, Cause No. 44724 – 09/01/2016, p. 153 of 163. In Cause No. 44724, Petitioner proposed to interconnect Lift Stations C and L with new higher capacity pumps as part of its 2016 Sewer Capital Improvement Program ("SCIP").

[87] *See* Attachment SC-46D Part 1 WWTP Plan Sheets 06-C-102 and 06-D-120, Baxter & Woodman – 03/17/2020, Case-in-Chief Testimony of Sean Carbonaro, Volume 16, Cause No. 45389 - 06/11/2020.

Record Drawings and provided no drawings (Design or Record) of any kind for the first and second segments. The lack of Record Drawings shows CUII has poor recordkeeping, which can cause higher planning and design costs. This is because CUII's consultants will not have Record Drawings of actual construction (pipe types, sizes, locations, etc.) on which to base their design and must spend time and money investigating to confirm what was installed. Worse yet, consultants may have to make assumptions about what CUII may have constructed, which can lead to change orders, additional engineering redesign costs and construction costs.

Q: What problem is CUII trying to fix by replacing the 8-inch pipe?

A: Loren Grosvenor testified the Lift Station L force main has a hydraulic bottleneck.[88]

Q: How long has this hydraulic bottleneck existed?

A: Since the first day in 2003 when CUII placed the Lift Station L force main in service. CUII has always had this hydraulic restriction. CUII's engineers expressly designed Lift Station L's force main to reuse the 8-inch segment CUII installed five years earlier in 1998. IDEM's permit writer also knew the 8-inch segment was in the middle of the 12-inch force main. She reviewed RHMG's hydraulic flows, head loss calculations, and pump selection and issued Lift Station L's construction permit.[89] The correspondence confirms that CUII requested and IDEM approved the Lift Station L force main, including the 8-inch segment.

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[88] Loren Grosvenor Case-in-Chief Testimony, p. 24, ll. 8-9.

[89] *See* Attachment JTP-14 for Petitioner's response to OUCC DR 5-60, Attachment Jordan 04/15/2003 Letter IDEM - Lift Station L. The OUCC requested a copy of the construction permit applications and the IDEM Construction Permits for Lift Station and its force main and all other Lift Stations and force mains connected to the Lift Station L force main. However, Petitioner did not provide any IDEM Construction Permits, only the Lift Station L permit application, IDEM's Deficiency Notice and RHMG's responses to the IDEM Deficiency Notice.

Q: Has this bottleneck been reported as a problem before?

A: No. It appears CUII did not identify this as a hydraulic problem in prior rate cases or the preapproval case. In Cause No. 44724, CUII proposed interconnecting Lift Station ("C") to Lift Station L's force main *before* the 8-inch segment to *route more flow through the 8-inch segment*.[90] CUII has not explained why a flow bottleneck (i.e., why they can't pass the needed flow) exists now when it was not a problem previously.

Q: Did the OUCC follow-up about CUII's claimed hydraulic bottleneck?

A: Yes. In discovery, the OUCC noted the following single sentence about *capacity loss* in Attachment LG-6, the Lift Station L Force Main Cleaning and Replacement Design Memo by Baxter & Woodman: "Lift Station L and its 4.5-mile-long force main located in the Twin Lakes Community has shown noticeable loss of capacity over the last several years."[91] Emphasis added. The OUCC asked about this sentence to understand what flow problem CUII is trying to solve, with CUII's responses listed in Table 5.

Q: Are more homes connected to Lift Station L now than at its 2003 start-up?

A: No. Lift Station L was designed for 548 homes but in response to OUCC DR 5-52(d), CUII reported 529 homes are connected today.[92] The area tributary to Lift Station L appears to be at full build out, so there should be no more homes

[90] Petitioner's supplemental response to OUCC DR 27-9, Contract Documents for the proposed Sanitary System Improvements for Lift Stations "C" and "L", RHMG Engineers, Inc. 04/05/2016, Cause No. 44724 – 09/01/2016, p. 153 of 163. In Cause No. 44724, Petitioner proposed to interconnect Lift Stations C and L with new higher capacity pumps as part of its 2016 Sewer Capital Improvement Program ("SCIP"). The flows from Lift Stations C and L would combine prior to the 8-inch Lift Station L segment.

[91] Attachment LG-6, to the Case-in-Chief Testimony of Loren Grosvenor – 12/07/2021. p. 1.

[92] *See* Attachment JTP-14 for Petitioner's design summary indicating Lift Station L would serve 548 homes.

connecting to it. CUII claims to have continued declining water use and indicates it will be focusing its I&I reduction efforts on individual basins. Both will further reduce flows that need to be pumped by Lift Station L.

Table 5 – CUII Responses to OUCC Data Request 5-52 regarding CUII's claimed loss of capacity in Lift Station L and its force main

OUCC DR 5-52 Subpart questions	CUII Responses to OUCC DR 5-52
a. When did Petitioner first notice the loss of capacity?	There is no particular date on which Petitioner first noticed the loss of capacity.
b. How much capacity has been lost?	Petitioner has not undertaken a study to quantify the precise amount of capacity that has been lost.
c. All supporting documentation / studies on which CUII relies for its statement that there has been a noticeable loss of capacity.	See the Baxter & Woodman Memorandum dated September 9, 2021, which has previously been provided.
d. Number of customers on Lift Station L.	529
e. Original design average and peak flow capacity of Lift Station L.	700 GPM at 150' TDH 75 HP.
f. Current design average and peak flow capacity of Lift Station L.	The current capacity of pump 1 is 1,114 gpm and pump 2 is 1,257, and the combination is 1,320 gpm.[93]
g. What capital improvements, if any, has Petitioner made to Lift Station L and its force main to specifically address the loss of capacity? If no improvements have been made to overcome the capacity loss, so state.	There have not been any improvements to specifically address the loss of capacity. This project is designed to address that issue.
h. Additional lift stations that also discharge to the 4.5-mile-long Lift Station L force main.	Lift Station K
i. Number of customers, and j. design avg. and peak flows for each additional lift station.	53 customers, 300 GPM at 108' TDH
k. Which lift stations discharging to the Lift Station L force main have flow meters, or l. pressure gauges?	None

[93] CUII's reported Pump No. 1 capacity at 1,114 gpm appears to be typo. According to the 2018 Sanitary Sewer Evaluation Study ("SSES") by RJN Group, Pump No. 1 has a tested pumping capacity of 1,144 gpm.

Q: Has Lift Station L's pumping capacity decreased?

A: No, pumping capacity has *increased*. The current 1,144 gpm for the lowest capacity pump in service is 59% higher than the original 700 gpm in 2003.[94] This is opposite from CUII's assertion of a loss of capacity and reflects the higher capacity and higher speed Flygt pumps installed in 2017. In 2016, CUII reported Lift Station L's single pump capacity was 975 gpm.[95]

Q: Who determined CUII's reported pumping rates for Lift Station L?

A: The pumping rates were determined by CUII's consultant, RJN Group ("RJN"), when it conducted lift station inspections and pump capacity tests for eight lift stations, including Lift Station L, in November 2018.[96]

Q: Is CUII's assertion that there has been a noticeable loss of capacity directly contradicted by the higher pumping capacity results reported by RJN Group?

A: Yes, and I cannot reconcile this conflicting information. Absent a CUII explanation for how these higher pump capacities (confirmed through the RJN pumping tests) show any flow capacity decrease exists from the design flows, I can only conclude that Lift Station L has not suffered the loss of capacity asserted by CUII.

Q: What do you estimate is currently being pumped regularly through the Lift Station L force main?

A: I estimate the combined pumping rate with both Lift Station L and K pumping to be 1,344 gpm based on the minimum 1,144 gpm from Lift Station L (pump No. 1

[94] Petitioner's responses to OUCC DR 5-52(e) and (f). Calculated based on the Pump No. 1 capacity.

[95] Petitioner's response to DR 14-53, Cause No. 44724 – 04/04/2016.

[96] Attachment SC-11, 2018 Sanitary Sewer Evaluation Study, RJN Group April 2019 to the Case-in-Chief Testimony of Sean Carbonaro, Volume 4, Cause No. 45389 – 06/11/2020, p. 33 of 100. RJN reported the pumping rates for Pump No. 1 (1,144 gpm), Pump No. 2 (1,257 gpm) and the combined pumping rate (both pumps in service at 1,320 gpm total).

in service) from the 2018 pump test results and 200 gpm from Lift Station K.[97] This is comparable to the 1,320-gpm combined pumping rate for both pumps in service at Lift Station L.

Q: Did CUII provide any documentation to support its statement about capacity loss?

A: No. To support Baxter & Woodman's single sentence that there was "a noticeable loss of capacity", CUII provided a circular reference back to the same Baxter & Woodman quote. I could not find any evidence in the Baxter & Woodman Memo supporting Baxter & Woodman's statement that there has been a noticeable loss of capacity.

Q: You showed that Lift Station L has not had a loss of capacity but rather an increase in pumping capacity. Is CUII referring to loss of force main capacity?

A: CUII may be comparing the capacity of a clean 12-inch force main to that of its never cleaned 8-inch, 12-inch, and 14-inch force main. Sediment build-up in force mains naturally occurs. Design standards account for this by limiting the friction factor ("C factor") used in flow calculations to a maximum of 120 and requiring a minimum 2 feet per second cleansing velocity.

The question CUII should be asking is whether the force main is able to convey the pumped flows from the connected Lift Stations, L and K. I believe the answer is yes. CUII has presented no evidence that these two lift stations are not conveying all the sewage they receive. Until this Cause, CUII had not reported a problem with the Lift Station L force main and has not previously had a Lift Station

[97] Petitioner's response to DR 14-53, Cause No. 44724 – 04/04/2016 indicating the Lift Station K flow (one pump operating) was 200 gpm.

L force main replacement or cleaning project.

Q: What capacity does CUII hope to achieve with its force main replacement?

A: CUII does not say.

Q: Why does CUII need additional capacity in the Lift Station L force main?

A: When the OUCC asked this question, CUII referred back to the Baxter & Woodman Memo stating "[t]he Report sets forth the primary drivers for replacing the Lift Station L force main. CUII did not answer the question but quoted from the Memo:

> Based on the hydraulic analysis and reduced costs for force main pigging, B&W recommends replacing the existing 8" force main with new 12" force main. With the force main compromised [sic] of all 12" pipe, the entirety of the force main can be properly cleaned and will be more cost effective. In addition to allowing proper cleaning of the force main, the replacement of the 8" force main with 12" will provide increased flow capacity.[98]

Emphasis added.

CUII did not explain *why* it needs more flow capacity in the force main than what it currently has, only that their proposed capital project will increase it.

Q: What are the range of flows CUII estimates before and after replacing Lift Station L's force main with pigging?

A: In response to discovery, CUII estimated flow capacities but did not provide data, calculations, or assumptions used to show how it generated the flow rates. CUII did not identify the entity that prepared the flow estimates shown in Table 6 or when they were prepared. These estimated flows are not part of the Baxter & Woodman Memo.

[98] Petitioner's response to DR 7-47.

Table 6 CUII Estimated Flow Capacities (gpm) – Lift Station L Force Main[99]

Configuration	Cleaning	GPM
Current ("as is") configuration (8-inch, 12-inch and 14-inch pipe)[100]	Uncleaned	800
Current ("as is") configuration (8-inch, 12-inch and 14-inch pipe)	Soft pigging (Brush Cleaning)	875
Proposed configuration after replacing the 8-inch pipe with 12-inch pipe	Hard Pig Cleaning	1,050

Q: What did you notice about CUII's estimated flow capacities?

A: I noticed that actual Lift Station L pump capacities determined by the RJN Group's pump tests (1,144 gpm to 1,320 gpm) are significantly above CUII's estimated capacities. Whoever prepared CUII's response to DR 7-47 must not have been aware of the Lift Station L pump testing results. There is a wide discrepancy between the higher actual pump test results and CUII's estimated flow capacities.

Q: Could CUII's request to replace part of Lift Station L's force main be tied to its I&I mitigation efforts?

A: Possibly. Except for annual sewer system improvements made under the Sewer Capital Improvement Program ("SCIP"), CUII does not address I&I with any other proposed capital project in this cause except for customer lateral replacements. CUII may be seeking to increase Lift Station L's capacity so that it can accommodate additional wet weather flows from the tributary area to Lift Station L or another lift station such as Lift Station C.

[99] Petitioner's response to OUCC DR 7-47.

[100] *Id.*, Petitioner objected to OUCC DR 7-47 stating it does not have a report or information regarding 14-inch pipe.

Q: What did the Commission order CUII to do regarding I&I in Cause No. 44724?

A: The Commission stated that it intended CUII to decrease rain and stormwater inflow and groundwater infiltration into its sewer system through the comprehensive I&I program, ordering CUII to do the following:

> Develop a Comprehensive Inflow and Infiltration Program to Decrease Total Incidences of Wastewater Backups and Manhole Overflows. Petitioner shall develop a comprehensive I&I program to decrease wastewater backups in homes and manhole overflows and to eliminate water inflow and ground water infiltration into Petitioner's wastewater collection system. The I&I program shall specifically address how Petitioner will decrease inflow of rain and storm water into the wastewater system by working with LOFS to eliminate improperly installed residential sump pumps and roof downspouts and illegally connected drains. The I&I program shall also utilize Petitioner's comprehensive asset program to decrease infiltration of groundwater into the wastewater system through leaky joints, cracked pipelines, and deteriorated manholes.
>
> Final Order in Cause No. 44724, p. 76.

Q: What did Petitioner propose for collection system improvements in the Cause No. 45389 preapproval case?

A: CUII proposed spending $4,148,088 for Phase One Sanitary Sewer Improvements (of three phases) to upgrade Lift Stations B and C with increased capacity, construct a new higher capacity Lift Station D, replace the Lift Station C force main, construct a force main from Lift Station B to Lift Station D, and construct a force main from Lift Station D to the WWTP (collectively, the "Collection System Improvements Project" or "CSIP"). The CSIP's stated intent in CUII's Petition was to improve conveyance in the tributary areas to Lift Stations B, C, and D and to reduce basement backups and manhole overflows.

Q: Did CUII propose projects in the preapproval case to locate and remove excessive I&I?

A: No. The collection system focus in the preapproval case was on upgrading and expanding Lift Stations B, C, and D and conveying wastewater and I&I directly to the WWTP, which CUII proposed to replace with a new higher capacity WWTP.

Q: Did the Commission grant preapproval for Petitioner's CSIP and WWTP replacement projects?

A: No. The Commission denied preapproval because it found that CUII had made no meaningful attempt to achieve I&I removal as set forth in the 44724 Order. The Commission held that a robust I&I removal program was long overdue and could alter and help better determine the identity and scale of the improvements needed.

Q: What do you recommend for the two lift stations connected to Lift Station L's force main?

A: I recommend CUII install flow meters and pressure gauges at Lift Stations L as previously recommended by CUII's consultant, Strand Associates in 2007 and by the OUCC in 2020. CUII will only be able to make sound decisions on locating and prioritizing removals of I&I and in tracking the success of its I&I removal efforts if it has flow monitoring data, including flow data from its major lift stations.

Q: Do you agree CUII should clean its Lift Station L force main by pigging?

A: Yes. CUII could pig the entire existing force main in its present configuration (8, 12, and 14-inch pipe) with soft brushes to remove solids and lower pumping costs by decreasing friction losses. CUII could also hard pig with intermediate launching and receiving pits such as from the Lift Station K tie-in point 2 miles to the WWTP.

Q: What is your recommendation regarding the pigging costs?

A: Pigging costs, sewer cleaning, and televising costs should be expensed, not capitalized. Engineering required for operations and maintenance tasks such as

contracting for force main pigging, sewer cleaning and televising should also be expensed and should not be capitalized. Charges for these types of services should not be included in CUII's Sewer Capital Improvement Program ("SCIP"). CUII also should not capitalize CUII staff time for contracting and overseeing pigging, sewer cleaning, and sewer televising.

I recommend CUII rebid the pigging contract through competitive bidding. CUII should try to attract more than a single bidder through a broadly distributed Advertisement for Bids and directly contacting pipeline cleaning contractors.[101]

Q: What is CUII's estimated cost and schedule for replacement of the 8-inch force main segment?

A: Loren Grosvenor testified that the $427,206 project began November 1, 2021, and will be completed in two months on June 30, 2022.[102] In discovery, CUII also updated the schedule as follows:[103]

Advertisement for Bids	5/23/2022
Bid Opening	6/13/2022
Construction Start	7/01/2022
Construction End	9/29/2022

Q: Is there anything you noted regarding the estimated project cost?

A: Yes. There appears to be a discrepancy in the estimated project cost. The Baxter & Woodman cost estimate prepared in September 2021 was $470,000, which included a 20% contingency but not AFUDC and captime. In response to discovery, CUII

[101] Attachment LG-6 to the Case-in-Chief Testimony of Loren Grosvenor. CUII received only a single bid for pigging of the Lift Station L force main from American Pipeline Solutions of Hackensack, NJ for $149,600.

[102] Table 1, Loren Grosvenor Case-in-Chief Testimony, p. 16.

[103] Petitioner's response to OUCC DR 5-49 (b).

indicated the $427,206 cost included $350,000 for construction, $52,500 for engineering (15% of construction), combined with $18,328 in captime and $6,328 in AFUDC.[104]

Q: Do you agree that CUII should replace the existing 8-inch force main segment with 12-inch pipe as CUII proposes?

A: No. CUII has not met its burden of proof to show that the capital project is needed. CUII has not proven that a loss of capacity even exists in Lift Station L and its force main or that there is any operational need to increase Lift Station L's force main capacity. No new customers will be added to Lift Station L. Separate testing by another CUII consultant documented Lift Station L's pumping capacity is: 1) higher than when it was installed in 2003; and 2) is significantly greater than the capacity estimates CUII provided to the OUCC. These pump tests contradict CUII's assertion about a loss of capacity. The CUII flow estimates are also not reliable as they are underreported and were not included in the Baxter & Woodman Memo (Attachment LG-6).

If CUII's intent is to pump more I&I directly to the WWTP rather than find it and remove it, I would recommend that the Commission order CUII to follow the Commission's clear direction from Cause No. 44724 and Cause No. 45389 to develop and execute a comprehensive I&I program to decrease the entry of water inflow and ground water infiltration into Petitioner's separate sanitary sewer system.

[104] Petitioner's response to OUCC DR 5-53.

IV. LIFT STATION C AND LIFT STATION L INTERCONNECT

Q: Has CUII proposed a separate capital project to interconnect the Lift Station C and Lift Station L force mains?

A: No. Mr. Grosvenor does not list an interconnect capital project in Table 1. The capital projects list provided in response to OUCC DR 5-50 also do not include an interconnect project. However, in Mr. Grosvenor's testimony about the Lift Station C permanent generator, he testified:

> This project will replace the existing trailer-mounted generator at Twin Lakes Lift Station C with a permanent generator. The initial phase of this project will include an engineering evaluation of tying Lift Station C into the Lift Station L forcemain. If that tie-in is feasible and cost-effective, CUII will size the generator to provide back-up power to pumps sized for that operation mode. If that tie-in is not feasible or cost-effective, CUII will size the generator for the existing pumps.[105]

Emphasis added.

When the OUCC asked about why CUII needs additional capacity in the Lift Station L force main, CUII responded "in addition to the bases cited in the Memorandum, CUII is evaluating the feasibility of connecting the Lift Station C force main into the Lift Station L forcemain,[106] in which case it would be necessary for the Lift Station L forcemain to have additional capacity."[107]

Q: How do you interpret CUII's responses?

A: It appears that even though CUII does not officially have an interconnect project, it is pursuing two precursor capital projects (Lift Station L force main replacement and Lift Station C generator), both of which support a future project to tie in the

[105] Loren Grosvenor Case-in-Chief Testimony, pp. 21-22.

[106] The correct spelling is force main (two words).

[107] Petitioner's response to OUCC DR 3-7.

Lift Station C force main to the Lift Station L force main. Neither of these projects locates and removes excessive I&I that causes sewer surcharging. Both projects aim to divert excessive I&I flows and sanitary sewage directly to the WWTP, where the force main discharge will amplify the peak flow imposed onto the WWTP.

Q: Does CUII propose removing I&I in the Lift Station C and L areas?

A: Not specifically. In its Case-in-Chief testimony, CUII does not describe the quantity of I&I in the Lift Station C and L tributary areas and does not provide any insight into its near or long-term plans to find and remove the I&I around Lift Station C and L. Loren Grosvenor does describe CUII's new approach to removing I&I:

> In 2022 and 2023, CUII plans to focus on I&I reduction one basin at a time. CUII already has repaired all Level 1 and Level 2 defects in multiple basins. We now plan to investigate and identify our worst performing basins with respect to I&I and eliminate all known defects. To accomplish that objective, each year we will focus on one basin and make all repairs necessary to eliminate I&I. In some cases, this may take longer than a year. Once the repairs are made to that basin, CUII will move to the next worst performing basin.

CUII did not provide testimony about which basin has the worst I&I or why it thinks focusing on only one basin is the best way to address I&I rather than on finding and repairing the worst I&I sources regardless of basin location. CUII seeks to change its long-term approach for I&I removal; previously, CUII's consultant RHMG assessed sewer and manhole defects that are I&I sources through its annual televising program and then ranked and prioritized the defects for repair. Perhaps this change reflects CUII's admission that its I&I program has not been successful in finding and removing I&I. CUII does not have a Collection System Master Plan. It appears CUII still does not have a comprehensive I&I program to decrease the

entry of water inflow and ground water infiltration into Petitioner's separate sanitary sewer system.

Q: Has CUII already designed the Lift Station C and L interconnect?

A: Yes. In April 2016, RHMG Engineers designed the Sanitary System Improvements for Lift Stations C and L as part of the 2016 SCIP, but CUII did not build the interconnect at that time.[108] The designed project included replacing the four pumps in Lift Stations C and L, variable frequency drives ("VFDs") for the pumps, adding a flow metering and valve vault, interconnecting the 6-inch Lift Station C force main with the 12-inch Lift Station L force main, electrical and controls upgrades and replacing the portable generator at Lift Station C with a new permanent generator.[109] The new design also included a pig launching station at Lift Station C. CUII has already sized and designed (design drawings and specifications) a new permanent generator at Lift Station C.

Q: Why didn't CUII build the Lift Station C and L interconnect?

A: In response to discovery, CUII directed the OUCC to Attachment SC-18 in Cause No. 45389:

> An explanation for why the Lift Station C force main cannot be tied into Lift Station L force main was provided on pg. 5 of the Sanitary Sewer System Improvements report, prepared by RHMG, dated August 27, 2019, provided as Attachment SC-18 with Mr. Carbonaro's Direct Testimony. In summary, RHMG recommended that the Company reserve capacity in the Lift Station L for potential future upgrades to Lift Station L, as well as potential hydraulic issues if Lift Station L, C, and K were tied into the Lift Station L force main. Further, RHMG identified

[108] Petitioner's response to OUCC DR 14-25, Cause No. 44724-04/04/2016

[109] Petitioner's response to OUCC DR 27-9, Cause No. 44724 – 09/01/2016. CUII's design for Lift Station C included replacing the two existing 230 gpm, 11.3 HP pumps with two new 600 gpm, 245 Ft. TDH, 72 HP Flygt submersible pumps. For Lift Station L, CUII proposed to replace the two existing 975 gpm, 60 HP pumps with two new 700 gpm, 235 Ft. TDH, 72 HP Flygt submersible pumps.

> that diversion of Lift Station B rather than Lift Station C would provide the most benefit to resolve the current conveyance restrictions of the Lake Shore Drive sewers. The Company has studied several alternatives for collection system improvements and determined that the proposed improvements explained in Mr. Carbonaro's Direct Testimony are the most appropriate solution to reduce basement backups and manhole overflows.[110]

The main problems causing CUII to abandon its idea to interconnect the two lift station force mains were that Lift Station L flows may need to be increased to 1,500 gpm and possibly to a peak hourly flow of as much as 2,680 gpm (Strand Associates projection). RHMG indicated that "[c]apacity in the Lift Station L forcemain would be best reserved for any future upgrades in pumping capacity needed for Lift station L."[111] RHMG also reported on discussions with CUII about replacing the 8-inch segment of the Lift Station L force main as follows:

> In our July 31st teleconference, there were additional questions as to whether the upsizing of approximately 1,060 lf of 8-inch diameter forcemain from Lift Station L would allow for a future increase in Lift Station L pumped flows with Lift Station C connected to the Lift Station L forcemain. (The majority of the Lift Station L forcemain is nominally 12-inch diameter; use of the pre-existing 8-inch forcemain across the golf course was performed as a construction cost savings measure.)
>
> Comments regarding the upsizing of the 8-inch diameter segment, if Lift Station C, K, and L are connected to the forcemain, are as follows:
>
> - Looking at a *possible* future upgrade of Lift Station L pumping capacity to 1,500 gpm, upsizing of the 8-inch forcemain on the golf course would <u>*not*</u> sufficiently alleviate pumping head restrictions *with Lift Stations L, C and K* connected to the forcemain. Calculated pumping heads for Lift Station L would be on the order of 450 feet T.D.H. at 1,500 gpm. Pumps are not manufactured in this range and the existing forcemain is not designed for these high pressures.

[110] *See* Attachment JTP-16 for Petitioner's response to OUCC DR 6-5, Cause No. 45389 – 09/14/2020. CUII's response referred to Attachment SC-18, Sanitary Sewer System Improvements, RHMG, to the Case-in-Chief Testimony of Sean Carbonaro, Cause No. 45389 – 06/11/2020.

[111] *Id.*

- Even with only Lift Station L and K connected to the upgraded forcemains, pumping heads may exceed the limit of available pumping equipment with Lift Station L pumping at 1,500 gpm.
- CUII should continue to focus on I/I reduction in the Lift Station L tributary basin, but infiltration and inflow (I/I) reduction may be insufficient to entirely eliminate a need to upgrade Lift Station L.[112]

CUII's consultants recommended CUII focus on removing I&I in the Lift Station L basin and against replacing the 8-inch force main segment with a 12-inch pipe or interconnecting the lift station force mains. Yet in this case, CUII is requesting funds for the Lift Station L force main replacement and the Lift Station C generator project. The Commission should disallow both projects.

Q: Did CUII also include a new permanent generator in the Lift Station C upgrade in Cause No. 45389?

A: Yes. However, the pump design conditions (flow and discharge pressure) changed for the Lift Station C pumps because CUII no longer proposed to interconnect Lift Station C's force main with Lift Station L's force main.[113] The discharge from Lift Station C would continue to flow to Manhole 342 at the intersection of Kingsway Drive and Sunrise Drive.

Q: What did you recommend for CUII's lift stations in the Cause No. 45389 preapproval case?

A: I recommended that the Commission deny CUII's proposed Collection System Improvement Project ("CSIP")") to replace Lift Stations B, C, and D and install new force mains because the CSIP is premature in that CUII has not fully developed

[112] *Id.*

[113] Attachment SC-40A - Sanitary Sewer Improvements Phase One, to the Case-in-Chief Testimony of Sean Carbonaro, Cause No. 45389- 06/11/2020. CUII's design for Lift Station C included replacing the two existing 230 gpm, 11.3 HP pumps with two new 700 gpm, 108 Ft. TDH, 60 HP submersible pumps.

and implemented a comprehensive I&I program to actually remove any excessive I&I in the sewer tributary to Lift Stations B, C, and D.

Q: What do you recommend for the Lift Station L force main replacement and the Lift Station C Generator projects?

A: I recommend that the Commission disallow both projects. Both projects are unneeded and CUII has failed to show why they are necessary. For the issue of aesthetics pertaining to the portable generator at Lift Station C, I recommend that CUII provide a fence with shrubs or plant shrubs as a visual barrier to minimize the public's view of the existing generator. The portable generator on site was installed in later 2015 or early 2016, based on my review of aerial photos.

V. TWIN LAKES LATERAL REPLACEMENT PROJECTS

Q: What is a sewer lateral?

A: A sewer lateral is the pipe connecting a business or home's sanitary plumbing (toilets, showers, bathtubs, sinks, etc.) to the utility sewer main. It consists of two parts: 1) the company side sewer lateral; and 2) the customer side sewer lateral.

Q: What is the company side sewer lateral?

A: According to CUII's Rules, Regulations and Conditions of Service – Sewer Section 1. D. "Company Sewer Lateral" means that portion of the sewer system from the Collection Sewer to the property line.[114]

Q: What is a customer sewer lateral?

A: The "Customer Sewer Lateral" means that portion of the sewer system extending

[114] Petitioner's response to OUCC DR 1-34 - CUII's Rules, Regulations and Conditions of Service – Sewer Section Approved by 30-Day Filing No. 50120, July 31, 2018.

from the property line to the Premises or property to be served.[115] The customer sewer lateral is owned by the customer.

Q: Who is responsible for maintaining and replacing the customer side of the lateral?

A: According to CUII's Rules, Regulations and Conditions of Service, "[t]he Customer or Owner shall bear all costs and expenses incident to the installation and connection of the Customer Sewer Lateral. The Customer or Owner shall indemnify the Company for any loss or damage that may directly or indirectly be occasioned by the installation of the Customer Sewer Lateral."[116] New connections must include a cleanout and a check valve installed at the expense of the Owner.[117] The customer is also responsible to maintain and replace the customer side lateral.

> 2. F. The Owner/Customer is responsible for all leaks, breaks, blockages, and repairs in the Customer Sewer Lateral. If leaks in the Customer Sewer Lateral are not repaired within a reasonable time, the Owner/Customer will be in violation of these Rules, Regulations, and Conditions of Service and subject to the penalties thereby imposed, including discontinuance of water and sewer service.[118]

Q: What does CUII propose for the sewer lateral replacement projects?

A: CUII wants to replace both the company side and customer sides of the lateral at the same time as a single construction project and seeks Commission approval to include the total cost in rate base.

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[115] *Id.*

[116] *Id.,* Section 2. B.

[117] *Id.*, Section 2. H (12).

[118] *Id.* Section 2. F

Q: When did CUII first propose replacing customer owned laterals and including the costs in rate base?

A: CUII proposed including the lateral replacement costs in rate base at the 5th (Final) Technical Conference in 2019.[119] CUII summarized the discussion in meeting minutes filed with the Commission on November 12, 2019.

> **ii. <u>Customer Lateral Replacements – Petition for Inclusion in Rate Base[2]</u>**
>
> - Mr. Justin Kersey spoke generally regarding the Utility's proposal to amend its rules tariff to include customer service lateral replacements. Mr. Kersey indicated the customers are getting very high quotes for replacement and CUII is interested in replacing the laterals and seeking recovery of the costs. Judge Manion indicated it would not be appropriate for the Commission to provide feedback on the proposal. Mr. Curt Gassert and Mr. Marcus Turner raised potential concerns related to the proposal. Ms. Margaret Stull offered that the Utility could do the work and loan the money to its customer and earn a return in the form of interest on the loan. Mr. Kersey indicated if the laterals were added to rate base it would add a cost of $4-$6 per customer. LOFS representatives indicated the customers would be supportive of the proposal.
>
> [2] Lateral replacements cost estimates attached.

Q: Did CUII's minutes include all the discussion on this matter?

A: No. CUII's minutes were a summary. They did not include all the discussion points and omitted comments made by Ted Fitzgerald representing LOFS, Scott Bell of the OUCC and myself. Below are my edits to CUII's notes reflecting the longer discussion of CUII's proposal and the additional points that were raised. Before the 5th Technical Conference, the OUCC was unaware CUII had determined customer laterals were a major I&I problem or that CUII wanted to include replacement costs in its rate base. There has been no further discussion about seeking funding until now when CUII proposed it in this cause. My edits to CUII's notes are as follows,

[119] 5th (Final) Technical Conference, Cause No. 44724 – 10/29/2019.

based on my notes taken at the time of the Technical Conference.[120]

ii. Customer Lateral Replacements – Petition for Inclusion in Rate Base[2]

- Mr. Justin Kersey spoke about including customer service lateral replacements in CUII's rate base. He said CUII talked to LOFS who indicated they wouldn't oppose CUII filing a petition. Mr. Kersey indicated that for customers with root intrusions and breaks, the customers are getting very high quotes for replacement. They have 60 days to fix the lateral and are seeing high plumber costs. Steve Lubertozzi said CUII is interested in replacing the laterals and seeking recovery of the costs. Mr. Lubertozzi asked for the IURC's and OUCC's opinions. Judge Manion indicated it would not be appropriate for the Commission to provide feedback on the proposal. Mr. Curt Gassert [Commission staff] questioned whether it would meet used and useful. Ted Fitzgerald said LOFS is not opposed in principle. He noted $10,000 quotes to replace laterals. Mr. Marcus Turner [Commission staff] said it would be a bit of a can of worms – would CUII own the lateral with an easement? Mr. Kersey said CUII was open to turn the new laterals back to customers but keep the cost on CUII's books.
- Scott Bell [OUCC staff] asked about the numbers – costs and how many laterals. He noted the cost range ($4,111 to $8,222) in CUII's Attachment included in the Tech Conference materials. Mr. Kersey said CUII would have to do a count. Ms. Margaret Stull [OUCC staff] pointed out if the estimate was too high, a customer might not be able to afford it at any cost. Loren Grosvenor said CUII has asked for quotes but has none. They have verbal quotes, some as high as $25,000. He said if CUII does the customers' lateral replacements, CUII can get a fair price.
- Margaret Stull [OUCC staff] offered that the Utility could do the work and loan the money to its customers and earn a return in the form of interest on the loan, but the customer laterals would not be on CUII's books. Jim Parks [OUCC staff] described what was done in Michigan City where the water utility agreed to take over the mains in the Pottawatomie Park subdivision but only if they were relocated out of backyards to the street right of way for proper access. The replacement cost is funded by a surcharge only on customers in Pottawatomie Park rather than all customers.
- Mr. Ted Fitzgerald added that for LOFS customers with clogged laterals who don't know what the problem is, it is difficult to get good cost quotes.
- Mr. Kersey indicated CUII estimates replacing 8 to 12% of customer laterals at an average of $5,200 per lateral. He stated if the laterals were added to rate base it would add a cost of $4-$6 per customer per month. Ted Fitzgerald said customers can buy insurance for lateral repairs but can avoid it if CUII does the repairs.

[120] These notes were provided by OUCC counsel to counsel for CUII, but were not filed with the Commission.

[2] Lateral replacements cost estimates attached.[121]

Q: How does CUII identify defective customer owned laterals?

A: Mr. Grosvenor testified "[t]he Company has lateral televising data from inspections and has identified between 8% to 12% of laterals may need replacement.[122] However, CUII did not provide any evidence about its lateral televising efforts such as who performed the lateral televising, when it was done, how many of the 3,100+ home laterals at Twin Lakes were televised and how many of the televised laterals were defective. CUII also did not provide a list of addresses with lateral defects. I question whether they have identified 315 homes with defective laterals. There is no evidence that CUII does know how many customer laterals are defective, how many can be repaired, or how many laterals must be replaced in their entirety.

Q: Have you received further information regarding CUII's intention with regard to lateral replacements since it filed its case-in-chief?

A: Yes. On April 25, 2022, CUII responded to LOFS DR 1. It provided the following response.

DR 1.07 Referencing Mr. Grosvenor's direct testimony at pages 22-24, admit that:

> a. CUII is proposing in this proceeding to include in base rates the costs for replacing sewer laterals that run from the facilities owned by CUII to the customer's home.
> b. CUII presently requires the customer to pay for repairs or replacements of sewer laterals on the customer's side of the system.

[121] *See* Attachment JTP-17 for Attachment LG-5 – Lateral Cost Estimates, May 31, 2019 from Mr. Grosvenor's Case-in-Chief Testimony and CUII's Agenda and Materials (lateral replacement cost estimates, dated May 31, 2019) for the 5th (Final) Technical Conference- 10/29/2019, Cause No. 44724 – 11/12/2019.

[122] Case-in-Chief Testimony of Loren Grosvenor, p. 22.

RESPONSE:
a. Denied. CUII is only replacing laterals on the Company-owned side of the main.

b. Admit.

Q: What is your response to CUII's answer to LOFS DR 1.07?

A: CUII's response to LOFS DR 1.07 is the first time in this case that CUII has stated it intends to only replace the utility side of laterals, and the response is contrary to statements in Mr. Grosvenor's testimony and a previous CUII statement at the 5th Technical Conference.

Q: How much I&I does CUII have in the Twin Lakes collection system?

A: CUII did not provide any estimate of the total I&I volume.

Q: Has CUII taken any recent action to determine the level of I&I in its system?

A: In answer to LOFS DR 1.02, "[h]as CUII quantified any reduction in inflow and infiltration in its system since May 5, 2021? If so, please identify the reduction," CUII responded "[n]o". CUII stated that in 2021 it issued an RFP, began to study its "worst" basin to reduce I&I, and "[m]ade repairs based on televising and recommendations from engineers, including a main repair and replacement of the Company-owned portion of a lateral." CUII Response to LOFS 1.01.

Q: How much I&I originates from defective customer laterals?

A: CUII does not provide this information.

Q: How will CUII track the success of its proposed lateral replacement program in removing I&I?

A: CUII does not say. CUII has not provided any estimates for any costs it would incur in tracking the success of the lateral replacement project in removing I&I caused by defective customer laterals.

Q: Has CUII tracked the success of its Sewer Capital Improvements Program ("SCIP") in finding and removing I&I?

A: No. CUII has not summarized the costs it has incurred in its Annual SCIP nor the amount of I&I removed from its system, if any.

Q: How many customer-owned defective sewer laterals CUII identified in recent years have been repaired or replaced by customers?

A: Petitioner did not provide this information and may not track it even though CUII Field Technicians are to inspect lateral repairs and replacements for conformance with Company rules.

Q: What does it cost for a customer to repair their lateral?

A: Petitioner did not provide any information about actual costs incurred by customers to repair laterals. At the October 29, 2019 Technical Conference, Mr. Ted Fitzgerald noted $10,000 quotes to *replace* laterals. At the same Technical Conference, Loren Grosvenor said CUII had asked for but did not have quotes for lateral replacements but CUII had verbal quotes, some as high as $25,000.

Q: If a customer only had a defective section of their lateral (e.g. root intrusion at a joint or a broken vitrified clay pipe ("VCP")) would the customer need to replace the entire lateral?

A: That depends on the pipe type and age. For a broken pipe or open joint, a lower cost spot repair may be the only repair needed. For VCP with visible cracking, total replacement may be the lowest cost and best option because of the likelihood of additional breaks.

Q: How much does it cost to replace the entire sewer lateral (company and customer owned)?

A: In Attachment LG-5, Lateral Cost Estimates, Loren Grosvenor included estimated costs based on a CUII prepared estimate dated May 31, 2019 to replace the entire lateral. He testified that CUII has estimated the lateral replacement program costs

at $2,000,000 (with 20% contingency added) for 315 customer laterals based on an average lateral replacement cost of $5,200, not including engineering or other associated costs.[123] He testified that the $5,200 cost also does not include the cost to televise all laterals in the system. The costs also do not include AFUDC and captime, which for CUII can add significantly to a project's costs. CUII's $5,200 cost per lateral (construction only) appears not have been updated since it was provided to the IURC and the OUCC in 2019.[124]

Q: How confident are you in CUII's estimated costs for lateral replacements?

A: I do not have confidence in CUII's cost estimates. They are most likely low based on my experience with CUII's cost estimates on other capital projects. There are too many unquantified project components (engineering, televising, AFUDC, and captime) and the cost estimates provided in Mr. Grosvenor's testimony are three years old and have not been updated. We do not know who prepared CUII's estimates, only that the estimates were prepared by PDS and checked by BWM. CUII did not obtain actual proposals or quotes from contractors. In addition, Petitioner does not indicate how it will contract for the work, whether it will be awarded to one contractor, multiple selected contractors or whether the work will be an open competitive bid project. *See* Attachment JTP-18 for information on replacing sewer laterals, including CUII's responses to data requests, Technical Conference materials, and excerpts from testimony.

[123] The $2,000,000 cost is for the multi-year lateral replacement program; CUII seeks to include $342,092 for 2022 and $358,967 for 2023.

[124] *See* Attachment JTP-17 for CUII's Lateral Costs Estimates, May 31, 2019.

Q: What do you estimate is the total cost to replace 315 defective customer laterals?

A: I estimate the rough cost would be 50% higher at over $3 million.[125]

Q: What is the approximate impact on customer rates for CUII's proposed sewer lateral replacement program?

A: Based on a total cost of $3,000,000, the average monthly sewer bill would increase by over $8 per month.

Q: What evidence does CUII present that customer sewer lateral replacement should be prioritized and that it is the best option to remove the most I&I at the lowest cost to ratepayers?

A: None.

Q: What other alternatives did CUII evaluate besides CUII completing the replacements and adding the cost to rate base?

A: None.

Q: Once it replaces the sewer lateral, will CUII own the lateral?

A: CUII does not say.

Q: Could homeowners hire their own contractors to televise their lateral and determine whether to repair or replace it?

A: Yes.

Q: Could CUII help educate its customers about their responsibilities for their laterals and be a clearinghouse for information on hiring contractors?

A: Yes.

Q: Could homeowners use a home equity loan to repair or replace their lateral?

A: Yes.

[125] Starting from CUII's $5,200 average cost per lateral, I adjusted the cost by 5% per year to bring the 2019 costs to $6,300 (2023 dollars). To this I added 20% for engineering and contingencies and then multiplied by 30% to account for other costs such as AFUDC and captime. This produces an average lateral replacement cost of approximately $10,000 per lateral.

Q: Is CUII's 60-day limit to get the defective lateral repaired or replaced too short?

A: Yes. Depending on the severity of the defect and how much I&I or backfill is entering CUII's sewers, CUII could be more flexible in working with customers to address their lateral, especially since customers would have to seek proposals from contractors, obtain funds, sign a contract for the repair, and schedule the work. CUII could assist homeowners by recommending qualified contractors.

Q: Should homeowners with well-maintained sewer laterals subsidize repairs or replacements of other customers?

A: No.

Q: What is your recommendation for CUII's proposed Sewer Lateral Replacement program?

A: Given the large number of unquantified costs, the impact on customer rates, ownership issues, and other higher CUII priorities for sewer repairs, I recommend the Commission disallow CUII's proposed sewer lateral replacement program in its entirety.

VI. RECOMMENDATIONS

Q: What are your recommendations in this cause?

A: I have the following recommendations:

1. I recommend the Commission disallow the $2,296,298 Headworks project because CUII has once again not justified the project need, has not provided adequate information and cost support, has not identified project alternatives, or performed a life cycle cost analysis as required by I.C. ch. 13-18-26 to justify its selected project is the best option for ratepayers. I testify that a far less costly

alternative exists of reinstalling a comminutor to address screenings and prevent potential WWTP hydraulic back-ups.

2. I recommend the Commission disallow the $500,000 Chemical/Office Building in its entirety because CUII has not provided any details in its case-in-chief about the building, such as the square footage, number of stories, or support for its estimated $500,000 building cost. I testify that CUII can continue to use its chemical phosphorus system that is housed in the CUII garage and that CUII staff should continue using the leased office space.
3. I recommend that the Commission disallow the $427,206 Lift Station L force main project because CUII has failed to show that a loss of capacity exists in the Lift Station or force main or that the project is needed.
4. I recommend that the Commission disallow the Lift Station C generator projects because the project is unneeded and CUII has failed to show why it is necessary. For the issue of aesthetics pertaining to the portable generator at Lift Station C, I recommend that CUII provide a fence with shrubs or plant shrubs as a visual barrier to minimize the public's view of the existing generator.
5. Given the large number of unquantified costs, the impact on customer rates, ownership issues, and other higher CUII priorities for sewer repairs, I recommend the Commission disallow CUII's proposed $2,000,000 sewer lateral replacement program in its entirety.

Q: Does this conclude your testimony?

A: Yes.

Appendix A

Q: Please describe your educational background and experience.

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

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

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

Q: Have you previously testified before the Commission?

A: Yes.

Appendix B - List of Attachments

Attachment JTP-1	Construction Permit No. 23507 – Twin Lakes WWTP Expansion (1.6 MGD / 3.58 MGD Peak) – 06/10/2020.
Attachment JTP-2	Petitioner's response to DR 3-12 and DR 5-55 regarding the Headworks project.
Attachment JTP-3	IDEM Construction Permit No. 21843, Headworks Upgrade – 05/20/2016
Attachment JTP-4	Construction Permit No. 10731 – Twin Lakes WWTP Upgrade (1.1 MGD / 3.58 MGD Peak) – 05/01/1997.
Attachment JTP-5	Petitioner's responses to OUCC DR 9-1 (without the hydraulic analysis) and OUCC DR 9-2.
Attachment JTP-6	Petitioner's responses to Petitioner's response to OUCC DR 5-60, Attachment Jordan 04/15/2003 Letter IDEM - Lift Station L and OUCC DR 2-4 (a), Cause No. 45389 regarding the Lift Station L and Lift Station L force main construction permit application in 2003.
Attachment JTP-7	Correspondence with IDEM regarding Lift Station L, the Lift Station L force main, and odor complaints.
Attachment JTP-8	Petitioner's response to DR 3-11, Cause No. 45389 – 09/08/2020 regarding the removal of the comminutor in 2013
Attachment JTP-9	Petitioner's Exhibit CKM, Case-in-Chief Testimony of Christopher K. Montgomery, Cause No. 43128 – 11/13/2006, p 7 and Petitioner's Exhibit CKM-4.
Attachment JTP-10	Comminutor cost estimate at American Suburban Utilities, Attachment MT-1 to Petitioner's Exhibit No. 3, Responsive Testimony of Marcene Taylor, Cause No. 44676 S1 – 03/24/2021,
Attachment JTP-11	Inspection Summary/ Noncompliance Letter, Community Utilities WWTP, NPDES Permit No. IN0037176 – 12/20/2021 and CUII's response to IDEM's letter – 01/14/2022.
Attachment JTP-12	Petitioner's responses to OUCC DR 10 questions pertaining to the proposed Headworks project, O&M cost estimates and life cycle cost analysis
Attachment JTP-13	Information on the required Life Cycle Cost Benefit analysis, Asset Management Plans, and Cybersecurity Plan.

Attachment JTP-14	Petitioner's response to DR 10-23 regarding flow meters on the influent sewers.
Attachment JTP-15	Description of the Lift Station L project by the design engineer, RHMG, Inc. provided with the Case-in-Chief Testimony of Sean Carbonaro, Volume 8, Attachment SC-39 - 06/11/2020, pgs. 26-29
Attachment JTP-16	Petitioner's response to OUCC DR 6-5, Cause No. 45389 – 09/14/2020, including Attachment SC-18, Sanitary Sewer System Improvements, RHMG, to the Case-in-Chief Testimony of Sean Carbonaro, Cause No. 45389 – 06/11/2020.
Attachment JTP-17	Attachment LG-5 – Lateral Cost Estimates, May 31, 2019 and CUII's Agenda and Materials (lateral replacement cost estimates, dated May 31, 2019) for the 5th (Final) Technical Conference-10/29/2019, Cause No. 44724 – 11/12/2019.
Attachment JTP-18	Information on replacing sewer laterals including CUII's responses to data requests, Technical Conference materials, and excerpts from testimony.

AFFIRMATION

I affirm the representations I made in the foregoing testimony are true to the best of my knowledge, information, and belief.

James T. Parks

By: James T. Parks
Cause No. 45651
Office of Utility Consumer Counselor (OUCC)

Date: April 28, 2022

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
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Eric J. Holcomb
Governor

Bruno Pigott
Commissioner

June 10, 2020

VIA CERTIFIED MAIL 7019 0700 0000 3589 6296

Mr. Loren Grosvenor, Area Manager
Community Utilities of Indiana, Inc.
10996 Four Season Place, Suite 100G
Crown Point, Indiana 46307

Dear Mr. Grosvenor:

Re: 327 IAC 3 Construction
Permit Application
Twin Lakes Wastewater Treatment Plant
Expansion
Permit Approval No. 23507
Crown Point, Indiana
Lake County

The application, plans and specifications, and supporting documents for the above-referenced project have been reviewed and processed in accordance with rules adopted under 327 IAC 3. Enclosed is the Construction Permit (Approval No. 23507), which applies to the construction of the above-referenced proposed water pollution treatment/control facility located at the site of the existing treatment facility at 9201 East 123rd Avenue in Crown Point, Indiana.

Please review the enclosed permit carefully and become familiar with its terms and conditions. In addition, it is imperative that the applicant, consulting architect/engineer (A/E), inspector, and contractor are aware of these terms and conditions.

It should be noted that any person affected or aggrieved by the agency's decision in authorizing the construction of the above-referenced facility may, within fifteen (15) days from date of mailing, appeal by filing a request with the Office of Environmental Adjudication for an adjudicatory hearing in accordance with IC 4-21.5-3-7 and IC 13-15-6. The procedure for appeal is outlined in more detail in Part III of the attached construction permit.

Plans and specifications were prepared by Baxter & Woodman, Inc., and certified by Amanda R. Streicher, P.E., and submitted for review on March 18, 2020, with additional information submitted on April 15, May 1, and May 12, 2020.

Any questions concerning this permit may be addressed to Kevin D. Czerniakowski, P.E., of our staff, at 317/234-8226.

Sincerely,

Dale T. Schnaith, Chief
Facility Construction and
Engineering Support Section
Office of Water Quality

Project No. PS-1846
Enclosures
cc: Lake County Health Department
Baxter & Woodman, Inc.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
AUTHORIZATION FOR CONSTRUCTION OF
WATER POLLUTION TREATMENT/CONTROL FACILITY
UNDER 327 IAC 3

DECISION OF APPROVAL

Community Utilities of Indiana, Inc., in accordance with the provisions of IC 13-15 and 327 IAC 3 is hereby issued a permit to construct the water pollution treatment/control facility located at the site of the existing treatment facility at 9201 East 123rd Avenue in Crown Point, Indiana. The permittee is required to comply with requirements set forth in Parts I, II and III hereof. The permit is effective pursuant to IC 4-21.5-3-4(d). If a petition for review and a petition for stay of effectiveness are filed pursuant to IC 13-15-6, an Environmental Law Judge may be appointed for an adjudicatory hearing. The force and effect of any contested permit provision may be stayed at that time.

NOTICE OF EXPIRATION DATE

Authorization to initiate construction of this pollution treatment/control facility shall expire at midnight one year from the date of issuance of this permit. In order to receive authorization to initiate construction beyond this date, the permittee shall submit such information and forms as required by the Indiana Department of Environmental Management. It is requested that this information be submitted sixty (60) days prior to the expiration date to initiate construction. This permit shall be valid for a period of five (5) years from the date below for full construction completion.

Signed this 10th day of June, 2020, for the Indiana Department of Environmental Management.

Dale T. Schnaith, Chief
Facility Construction and
Engineering Support Section
Office of Water Quality

WATER POLLUTION TREATMENT/CONTROL FACILITY DESCRIPTION

Community Utilities of Indiana, Inc. currently operates a Class III, 1.1 MGD extended aeration facility consisting of a comminutor, influent flow meter, a flow splitter box dividing wastewater flow between an aeration tank/clarifier package plant, the North Battery (two aeration tanks and a secondary clarifier), and the South Battery (two sets of two aeration tanks and a secondary clarifier). After aeration and clarification the flow is recombined and directed to chlorination/dechlorination facilities, post aeration, and effluent flow metering. Solids handling includes an aerobic digester and sludge storage tank. Final sludge is either land applied or hauled to a landfill. The facility is currently receiving influent flows at or near its design flow rating and is currently operating under an Early Warning for Sewer Ban. The facility needs to be expanded to treat current flows and provide capacity for potential development within its service area.

It is proposed to construct a new 1.6 MGD oxidation ditch treatment facility consisting of mechanical screening, grit collection, an influent pump station, oxidation ditch, two secondary clarifiers, ultraviolet light disinfection, and post aeration. Solids will be treated via existing aerobic digesters as well as thickened with a new gravity belt thickener followed by storage and treatment in the existing aerated sludge storage tank. It is also proposed to repurpose the facility's existing secondary clarifiers as storm clarifiers which will be brought online during wet weather events to allow the facility to treat up to 6.6 MGD. The existing package plant and aeration tanks will be repurposed as excess flow tanks which will hold peak flows which overflow from the Raw Sewage Pump Station until such time as influent flows recede and can be pumped back for full treatment.

CONDITIONS AND LIMITATIONS TO THE AUTHORIZATION FOR CONSTRUCTION OF WATER POLLUTION TREATMENT/CONTROL FACILITY

During the period beginning on the effective date of this permit and extending until the expiration date, the permittee is authorized to construct the above described water pollution treatment/control facility. Such construction shall conform to all provisions of State Rule 327 IAC 3 and the following specific provisions:

PART I

SPECIFIC CONDITIONS AND LIMITATIONS TO THE CONSTRUCTION PERMIT

Unless specific authorization is otherwise provided under the permit, the permittee shall comply with the following conditions:

1. Additional treatment facilities shall be installed if the proposed facilities prove to be inadequate or cannot meet applicable federal or state standards.

2. All local permits, including zoning, shall be obtained before construction is begun on this project.

3. If pollution or nuisance conditions are created, immediate corrective action will be taken by the permittee.

4. If construction is located within a floodway, a permit may also be required from The Department of Natural Resources prior to the start of construction. It is the permittee's responsibility to coordinate with that agency and obtain any required approvals if applicable. Questions may be directed to the Technical Services Section, Division of Water at 317/232-4160.

5. If this project includes a change in design flow, addition of new treatment unit(s), or modification/removal of existing treatment unit(s), an NPDES Permit modification will likely be required. This would include any CSO treatment addition/modification. Questions may be directed to the NPDES Permit Section, Office of Water Quality at 317/233-0469.

6. The sewage treatment plant must be capable of providing the same degree of treatment during construction as prior to of the existing facilities. If this is not feasible, the plans for reduced degree of treatment must be submitted to the Department of Environmental Management for consideration of approval.

Failure to meet guidelines as set forth in the above conditions could be subject to enforcement proceedings as provided by 327 IAC 3-5-3.

PART II

GENERAL CONDITIONS

1. No significant or material changes in the scope of the plans or construction of this project shall be made unless the following provisions are met:

   a. Request for permit modification is made 60 days in advance of the proposed significant or material changes in the scope of the plans or construction;

   b. Submit a detailed statement of such proposed changes;

   c. Submit revised plans and specifications including a revised design summary; and

   d. Obtain a revised construction permit from this agency.

2. This permit may be modified, suspended, or revoked for cause including, but not limited to the following:

   a. Violation of any term or conditions of this permit:

   b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts.

3. Nothing herein shall be construed as guaranteeing that the proposed water pollution treatment/control facility shall meet standards, limitations or requirements of this or any other agency of state or federal government, as this agency has no direct control over the actual construction and/or operation of the proposed project.

PART III

NOTICE OF RIGHT TO ADMINISTRATIVE REVIEW

Anyone wishing to challenge this construction permit must do so by filing a Petition for Administrative Review with the Office of Environmental Adjudication (OEA), and serving a copy of the petition upon IDEM. The requirements for filing a Petition for Administrative Review are found in IC 4-21.5-3-7, IC 13-15-6-1 and 315 IAC 1-3-2. A summary of the requirements of these laws is provided below.

A Petition for Administrative Review must be filed with the Office of Environmental Adjudication (OEA) within fifteen (15) days of the issuance of this notice (eighteen (18) days if notice was received by U.S. Mail), and a copy must be served upon IDEM. Addresses are:

Director
Office of Environmental Adjudication
Indiana Government Center North
Room 103
100 North Senate Avenue
Indianapolis, Indiana 46204

Commissioner
Indiana Department of Environmental Management
Indiana Government Center North
Room 1301
100 North Senate Avenue
Indianapolis, Indiana 46204

The petition must contain the following information:

1. The name, address and telephone number of each petitioner.
2. A description of each petitioner's interest in the permit.
3. A statement of facts demonstrating that each petitioner is:
   a. a person to whom the order is directed;
   b. aggrieved or adversely affected by the permit; or
   c. entitled to administrative review under any law.
4. The reasons for the request for administrative review.
5. The particular legal issues proposed for review.
6. The alleged environmental concerns or technical deficiencies of the permit.
7. The permit terms and conditions that the petitioner believes would be appropriate and would comply with the law.
8. The identity of any persons represented by the petitioner.
9. The identity of the person against whom administrative review is sought.
10. A copy of the permit that is the basis of the petition.
11. A statement identifying petitioner's attorney or other representative, if any.

Failure to meet the requirements of the law with respect to a Petition for Administrative Review may result in a waiver of the Petitioner's right to seek administrative review of the permit. Examples are:

1. Failure to file a Petition by the applicable deadline;
2. Failure to serve a copy of the Petition upon IDEM when it is filed; or
3. Failure to include the information required by law.

If Petitioner seeks to have a permit stayed during the administrative review, he or she may need to file a Petition for a Stay of Effectiveness. The specific requirements for such a Petition can be found in 315 IAC 1-3-2 and 315 IAC 1-3-2.1.

Pursuant to IC 4-21.5-3-17, OEA will provide all parties with notice of any pre-hearing conferences, preliminary hearings, hearings, stays, or orders disposing of the review of this action. Those who are entitled to notice under IC 4-21.5-3-5(b) and would like to obtain notices of any pre-hearing conferences, preliminary hearings, hearings, stays, or orders disposing of the review of this action without intervening in the proceeding must submit a written request to OEA at the address above.

More information on the review process is available at the website for the Office of Environmental Adjudication at http://www.in.gov/oea.

Wastewater Treatment Facility
Design Summary

I. GENERAL

1. Applicant: Community Utilities of Indiana, Inc.
2. Facility Name: Twin Lakes Wastewater Treatment Plant
3. Project Type: Expansion or modification of existing facility
4. Project Title: Twin Lakes WWTP Expansion
5. Project Location: 9201 East 123rd Avenue, Crown Point, IN
6. Construction Permit Number: 23507
7. Design Engineer: Amanda R. Streicher, P.E.
8. Engineering Company: Baxter & Woodman, Inc.
9. NPDES Permit Number: IN0037176
   A. Effective date: June 1, 2018
   B. Expiration date: May 31, 2023
10. Project Scope
    A. Description of existing treatment facilities: Community Utilities of Indiana, Inc. currently operates a Class III, 1.1 MGD extended aeration facility consisting of a comminutor, influent flow meter, a flow splitter box dividing wastewater flow between an aeration tank/clarifier package plant, the North Battery (two aeration tanks and a secondary clarifier), and the South Battery (two sets of two aeration tanks and a secondary clarifier). After aeration and clarification the flow is recombined and directed to chlorination/dechlorination facilities, post aeration, and effluent flow metering. Solids handling includes an aerobic digester and sludge storage tank. Final sludge is either land applied or hauled to a landfill.
    B. Description of project needs: The facility is currently receiving influent flows at or near its design flow rating and is currently operating under an Early Warning for Sewer Ban. The facility needs to be expanded to treat current flows and provide capacity for potential development within its service area.
    C. Description of proposed facilities: It is proposed to construct a new 1.6 MGD oxidation ditch treatment facility consisting of mechanical screening, grit collection, an influent pump station, oxidation ditch, two secondary clarifiers, ultraviolet light disinfection, and post aeration. Solids will be treated via existing aerobic digesters as well as thickened with a new gravity belt thickener followed by storage and treatment in the existing aerated sludge storage tank. It is also proposed to repurpose the facility's existing secondary clarifiers as storm clarifiers which will be brought online during wet weather events to allow the facility to treat up to 6.6 MGD. The existing package plant and aeration tanks will be repurposed as excess flow tanks which will hold

peak flows which overflow from the Raw Sewage Pump Station until such time as influent flows recede and can be pumped back for full treatment.

D. Is project part of an Agreed Order?: No

E. How facility will maintain treatment during construction: The proposed treatment units will be completely constructed and operational prior to any existing systems being taken off-line for demolition and/or repurposing.

11. Source of Funding: Local Funds

12. Estimated Total Project Cost: $17,500,000

II. DESIGN DATA

1. Design Average Flow (MGD): 1.6 MGD
2. Design Peak Hourly Flow (MGD): 4.8 MGD
3. Maximum Flow Capability (MGD): 6.6 MGD
   A. Other explanation: Facility is designed to provide full treatment to 4.8 MGD through normal operation. In storm mode, repurposed storm clarifiers are brought online to allow the facility to treat up to 6.6 MGD. The existing aeration tanks and package plant will be repurposed to create 700,000 gallons of excess flow storage to hold flows for future treatment after influent flows subside.
4. Design Waste Strength
   A. CBOD: 142 mg/l
   B. TSS: 204 mg/l
   C. NH_3-N: 21 mg/l
   D. P: 6 mg/l
5. Design Population Equivalent (PE): 11,146 (based on 0.17 lb CBOD/PE influent loading)
6. NPDES Permit Limitation on Effluent Quality
   A. $CBOD_5$: 15 mg/L summer and 25 mg/L winter (monthly average)
   B. TSS: 18 mg/L summer and 30 mg/L winter (monthly average)
   C. NH_3-N: 1.3 mg/L summer and 1.8 mg/L winter (monthly average)
   D. P: 1.0 mg/L
   E. pH: 6.0 s.u. (daily min) and 9.0 s.u. (daily max)
   F. DO: 6.0 mg/L summer and 5.0 mg/L winter (daily min)
   G. *E. coli*: 125 count/100 mL (monthly average), 235 count/100 mL (daily max)
7. Sampling Method (Grab or Automatic Sampler) and Location
   A. Influent: Automatic Sampler in Headworks channel
   B. Effluent: Automatic Sampler in Post Aeration Tank

8. Receiving Stream
   A. Name: East Branch of Stony Run
   B. Stream Uses: Full body contact recreational use and shall be capable of supporting a well-balanced warm water aquatic community and designated as an impaired water.
   C. 7-day, 1-in-10 year low flow: 0.0 cfs

III. PLANT DETAILS

1. Laboratory type (e.g., on site, third-party testing): Primarily on-site; third-party as required
2. Plant site fence provided: Yes
3. Handrail/grating provided where necessary: Yes
4. Flood hazard elevation (ft) at 100 year flood: 718.10
5. Provisions for mechanical/electrical component protection at 100 year flood: Yes
6. Type and rating (kW) of standby power equipment: Existing 545 kW Diesel generator
7. Provisions for removing heavy equipment: As needed
8. Septage/leachate receiving facilities: None

IV. TREATMENT UNITS

Screening (Proposed)
1. Type of screening: Mechanical Bar Screen
2. Location description: Plant headworks
3. Bypass bar screen provision: Yes, existing manual screen to be used as a bypass
4. Number and rated capacity (gpd): 2 screens each 7.0 MGD
5. Clear opening sizes, bar or perforations (in): ¼" bar spacing
6. Slope of unit (°): 75° from horizontal
7. Method of unit cleaning: Mechanical rake
8. Method of screening disposal: Screenings washer and conveyor to dumpster

Grit Removal (Proposed)
1. Type of grit removal system: Vortex Grit Remover
2. Location description: South of Headworks Building
3. Number and dimensions (ft) of unit: One unit, 16' Diameter
4. Side water depth and freeboard (ft) of unit: 12' SWD; 5' Freeboard
5. Rated capacity (gpd): 14 MGD
6. Type of bypass provisions: Slide gates in Headworks Building
7. Type of aeration provisions (if applicable): N/A

Raw Sewage Pump Station (Proposed)

1. Location description: Northeast corner of plant site
2. Type of pump: Submersible, non-clog
3. Number of pumps: 5
4. Constant or variable speed: Variable
5. Design operating capacity (gpm) and TDH (ft): Two each 556 gpm@22' TDH
   Three ach 2,290 gpm @25' TDH
6. Operating volume of the wet well (gal): 3,240 gallons
7. Detention time in the wet well (min): 3,240 gallons
8. Shutoff valve and check valve in the discharge line: Yes
9. Shutoff valve on suction line: N/A
10. Type of ventilation: Screened vent pipe
11. Type of standby power: Connected to plant generator
12. Type of alarm: SCADA system
13. Type of bypass or overflow provisions: Overflow to excess flow tanks

Flow Equalization (Proposed)

1. Type of structure: Repurposed aeration tanks and package plant
2. Number and dimensions (ft) of unit: Circular package plant 102' OD x 48' ID
   Two tanks each 37' x 24'
   Two tanks each 19.5' x 24'
3. Side water depth and freeboard (ft) of unit: 12' SWD; 2' Freeboard
4. Volume (gal): 700,000 gallons
5. Type and size (HP) of mixing equipment: Existing 2,100 cfm blower
6. Type of aeration provisions (if applicable): Fine bubble diffusers
7. Description of flow return methods and controls: Flow pumped back to raw sewage pump station
8. Type of sludge removal provisions: Manual as needed. Tanks aerated to keep solids in suspension.
9. Type and thickness of lagoon liner (if applicable): N/A

Influent Flow Meter (Proposed)

1. Type and size (in): One each 6" and 12" Mag meter
2. Location description: Raw sewage force mains from large and small pumps
3. Indicating, recording and totalizing: Yes

Oxidation Ditch (Proposed)

1. Number and dimensions (ft) of unit: three-ring orbal w/ 30' straight length, 50' radius
2. Side water depth and freeboard (ft) of unit: 13.5' SWD; 3' Freeboard
3. Hydraulic detention time (hrs): 20 hours @ 1.1 MGD
4. Organic loading (design average flow, lb CBOD/1000 ft^3): 10.6 lb BOD/1000 ft^3
5. Design MLSS concentration (mg/L): 3,000 mg/l
6. Design solids retention time (days): 24 days
7. Design F/M ratio (lb CBOD/day/lb MLVSS): 0.114
8. Aeration equipment
   A. Type and number: Outer Ring – Two 25 HP aerators, 12 discs each
      Inner Rings – Two 40 HP aerators, 25 discs each
   B. Efficiency (lb O_2/HP-hr): 2.7 lb O_2/HP-hr
9. Oxygen requirement (lb O_2/day)
   A. CBOD removal: 4,237 lb/day
   B. NH_3-N removal: 2,015 lb/day
10. Oxygen provided (lb O_2/day): 8,400 lb/day at maximum depth and speed
11. Flow velocity in ditch (ft/sec): Approximately 2 fps
12. Number and capacity of return sludge pumps (gpm): Two pumps each 833 gpm
13. Method of return sludge rate control: VFDs on pumps
14. Return sludge rate as % of design average flow: Up to 150%
15. Provisions for return rate metering
    A. Type and size: 8" magnetic flow meter
    B. Location: RAS/WAS Pump Station Valve Vault
16. Return sludge discharge location: Oxidation Ditch
17. Method of unit isolation: N/A
18. Method of flow split control: N/A

Chemical Phosphorus Removal (Modification) – Relocation of existing facilities

1. Chemical properties
   A. Chemical name: Alum
   B. Weight concentration in solution (%): 48.5
   C. Specific gravity: 1.33
2. Chemical storage container
   A. Type: Storage Tank
   B. Volume (gal): 6,100 gal
   C. Expected storage supply (days): 47 days
3. Secondary containment
   A. Type: Sunken floor
   B. Dimensions (ft) or volume (gal): 16' 8" x 16' 2" x 4' (8,000 gallons)
4. Number and capacity of chemical feed pumps (gpm): Two pumps each 10 gph
5. Design chemical feed rate: 5.3 gph
6. Location(s) of chemical injection: Oxidation Ditch or Secondary Clarifier Splitter
7. Provisions for adequate mixing at injection point: Adequate turbulence for mixing
8. Chemical building
   A. Method of ventilation control: Louver and exhaust fan
   B. Method of temperature control: Electric heater
   C. Safety shower/eyewash equipment: Yes

Secondary Clarification (Proposed)

1. Type of clarifier: Circular, suction-type sludge removal
2. Number and dimensions (ft) of unit: Two tanks each 60' Diameter
3. Side water depth and freeboard (ft) of unit: 12' SWD; 1' 11" Freeboard
4. Surface overflow rate (gpd/ft^2)
   A. at design average flow: 195 gpd/sf
   B. at design peak hourly flow: 849 gpd/sf
5. Hydraulic detention time (hrs)
   A. at design average flow: 11.1 hours
   B. at design peak hourly flow: 2.5 hours
6. Weir loading rate at design peak hourly flow (gpd/lin·ft): 14,235 gpd/lf
7. Location of overflow weir: Outer rim of clarifier
8. Method of scum collection: Skimmer arm
9. Method of scum disposal: Scum box drain to RAS/WAS pump station
10. Type of sludge removal mechanism: Suction header
11. Method of unit isolation: Splitter box with weir gates
12. Method of flow split control: Splitter box with weir gates

Storm Clarifiers (Modification) – Repurposed existing secondary clarifiers

1. Type of clarifier: Circular
2. Number and dimensions (ft) of unit: Two tanks each 34' Diameter
3. Side water depth and freeboard (ft) of unit: 12' SWD; 3' Freeboard
4. Surface overflow rate (gpd/ft^2)
   A. at maximum flow: 496 gpd/sf
5. Hydraulic detention time (hrs)
   A. at maximum flow: 6.8 hours
6. Weir loading rate at maximum flow (gpd/lin·ft): 7,157 gpd/lf
7. Location of overflow weir: Outer rim of clarifier
8. Method of scum collection: Skimmer arm
9. Method of scum disposal: Scum drain pump station to aerobic digester
10. Type of sludge removal mechanism: Mechanical scraper arms
11. Method of unit isolation: Splitter box with weir gates, valves in piping
12. Method of flow split control: Valves in piping
13. Additional information: Flow through these clarifiers is limited to a maximum of 1.8 MGD due to Raw Sewage Pump Station capacity of 6.6 MGD. At full pumping capacity, 4.8 MGD will flow through the secondary clarifiers, with the additional 1.8 GD being routed to the storm clarifiers.

Ultraviolet Disinfection (Proposed)

1. Open channel or closed-vessel: Open channel
2. Vertical, horizontal, or diagonal lamp orientation: Diagonal
3. Lamp type: Low Pressure, High Intensity
4. Number of banks: 2
5. Number of modules per bank: 1
6. Number of lamps per module: 12
7. Dosage ($\mu Ws/cm^2$): 40,000 $\mu Ws/cm^2$
8. Transmittance (%): 65%
9. Provisions for intensity monitoring: UVT monitor
10. Type of level control provisions: Fixed weir
11. Type of bypass provisions: Isolation slide gates
12. Type of safety equipment: Aluminum covers over channel, safety goggles
13. Automatic or manual cleaning equipment: Automatic wipers

Diffused Air Post-Aeration (Modification)

1. Number and dimensions (ft) of unit: One unit 10' x 10'
2. Side water depth and freeboard (ft) of unit: 10' 8" SWD; 2' 10" Freeboard
3. Type and efficiency of diffusers (SOTE %): Existing fine bubble diffusers
4. Dedicated or shared plant blowers: Shared w/ digesters, excess flow tank
5. Type and rated capacity of blowers (cfm): Existing blowers, 1,450 cfm capacity

Effluent Flow Meter (Proposed)

1. Type and size (in): 24" area velocity meter
2. Location description: Effluent metering manhole
3. Indicating, recording and totalizing: Yes

Sludge Thickening (Proposed)

1. Type of sludge thickeners: Gravity Belt Thickener
2. Number and dimensions (ft) of unit: 1 unit – 1-meter GBT
3. Hydraulic capacity (gpm): 220 gpm
4. Solids capacity (lb/hr): 550 lb/hr
5. Type of chemicals added: Polymer
6. Expected solids content of sludge (%): 6%

Aerobic Digester (Modification)

1. Number and dimensions (ft) of unit: No. 1 – 24' x 48'
   No. 2 East – Two tanks 36' x 24'
   No. 2 West – Two tanks 27' x 12'
2. Side water depth and freeboard (ft) of unit: No. 1 – 15' SWD; 1' 8" Freeboard
   No. 2E – 14' SWD; 1' 9" Freeboard
   No. 2W – 8' SWD; 1' 9" Freeboard
3. Volume (gal): 350,000 gallons total
4. Total design sludge loading (lbs/day): 1,700 lb/day
5. Volatile solids percentage (%): 60%
6. Design solids retention time (days): 66 days
7. Type and efficiency of diffusers (SOTE %): Membrane disc diffusers, 12% SOTE
8. Dedicated or shared plant blowers: Shared
9. Type and rated capacity of blowers (cfm): Existing blowers, 1,450 cfm capacity
10. Decanting method: Telescoping valves
11. Discharge location of supernatant: Oxidation ditch

Aerated Sludge Holding Tank (Modification)

1. Number and dimensions (ft) of unit: One unit – 70' Diameter
2. Side water depth and freeboard (ft) of unit: 13.5' SWD; 1' 4" Freeboard
3. Volume (gal): 390,000 gallons
4. Total design sludge loading (lbs/day): 1,700 lb/day
5. Sludge storage retention time (days): 74 days
6. Type and efficiency of diffusers (SOTE %): Existing Jet aerators
7. Dedicated or shared plant blowers: N/A
8. Type and rated capacity of blowers (cfm): N/A
9. Decanting method: Telescoping Valve
10. Discharge location of supernatant: Plant Drain Lift Station to Oxidation Ditch

Final Sludge Disposal (Existing)

1. Ultimate disposal method of sludge: Liquid Land Application
2. Expected solids content of sludge (by the principal method of disposal): 4%
3. Location of disposal site: Varies
4. Ownership of the disposal site: Community Utilities of Indiana, Inc.
5. Availability of sludge transport equipment: Hired Contractor

V. SEWER COLLECTION SYSTEM – N/A

COMMUNITY UTILITIES OF INDIANA, INC,

RESPONSE TO THE OUCC

DATA REQUEST OUCC 03.12

Witness Responsible:	Loren Grosvenor
Title:	State Operations Manager
Date Received:	January 26, 2022
Docket No.:	45651

OUCC 03.12

Please provide documentation supporting the cost for each project in Table 1 on pages 15-16 of L. Grosvenor's testimony.

OBJECTION:

Petitioner objects to the foregoing Data Request on the grounds that it is vague and ambiguous and, depending on its intended meaning, is overly broad and unduly burdensome. Subject to and without waiving the foregoiong objection, Petitioner submits the response set forth below.

RESPONSE:

The calculations made to include capitalized time and AFUDC have been demonstrated in Attachment AD-3, document entitled "pro forma Capital Investments.xlsx". Below are the major categories of improvements reflected on Table 1:

- AMR Meters – As indicated by Mr. Grosvenor, "[a]ll meters for 2021 have been purchased and the estimated costs here are reflective of actual costs already incurred. The cost estimate for 2022 includes direct purchase of materials (meters and reading device) and capitalized time." Meter cost quotes are attached, as well as correspondence from a contractor for labor. In 2021, CUII replaced 1,341 meters at the meter cost shown on the attachments and with plumber cost as shown on the attachment. In addition, some amount of cap time was required to coordinate the replacement, leading to the total cost of $498,310. Since February 2021, CUII has been installing meters itself at its cap time rates. In 2022 and 2023, CUII anticipates replacing approximately 1,643 and 1,643 meters respectively and cap time is estimated at approximate one hour per meter replacement.
- Twin Lakes WTP Iron Filter – The costs were supported in the pre-approval proceeding (i.e., Cause No. 45342). The amount shown shown on Table 1 includes the pre-approved cost of the projects of $2,079,406, as well as expenditures associated with AFUDC, Cap Time, and regulatory costs.

- The Lift Station C Generator – The cost estimate was developed using experience with similar projects that CUII has completed. CUII's current estimate includes $20,000 for engineering (evaluation and design), $45,000 for generator procurement and $40,000 for installation.
- Well #12 and Well #13 – The cost is based on the actual cost of installing the new wells. As of October 1, 2021, CUII had spent $340,425 to complete the wells. CUII has some costs still outstanding, including landscaping expense. Copies of invoices related to this project as well as a spreadsheet recording all of the capitalized time are included in the series of files with a 3.12 Well prefix.
- Headworks – The total cost for the Headworks Building includes: (i) the estimated cost of the facility at a 90% opinion of the probable cost multiplied by an inflation factor of 1.2, (ii) an additional 10% for engineering cost; and (iii) IDC and Cap Time costs. The engineering opinion is attached as OUCC 3.12 90% Simple OPC.
- Lift Station L Forcemain Replacement – See Petitioner's Attachment LG-6: Lift Station L Cleaning and Replacement Report, previously provided in Petitioner's response to DR 03.07.
- Office Building -- Baxter & Woodman provided a high-level estimate for a stanb-alone Office Building of $500,000.
- SCIP/Lateral/Main and Service Line Replacements – The manner in which the cost estimates for the foregoing projects was determined is described in the testimony of Mr. Grosvenor. In general, 2021 projects are based on actual costs. The projects to be completed in 2022 and 2023 are based on projections using past performance or performance goals established in previous cases.

It is important to note that all costs will be trued-up to actuals. Nothing will go in rates until actual dollars are spent on an actual project.

Attachment:

OUCC 03.12 90% Simple OPC.pdf
OUCC 03.12 AMR Qte1376025_1.pdf
OUCC 03.12 AMR Qte1376026_1.pdf
OUCC 03.12 AMR Water meter replacements.pdf
OUCC 03.12 Wells 10-SRS – Well 13 restoration 300.00 20-37 9-3-20.pdf
OUCC 03.12 Wells 2018166 Cost.xlsx
OUCC 03.12 Wells 4-Print.pdf
OUCC 03.12 Wells MISCH_1226_2020-10-21.pdf
OUCC 03.12 Wells Print.pdf
OUCC 03.12 Wells-BRADLEY S. MISCH-1283A-250.IPM_01748126.pdf
OUCC 03.12 Wells-BRADLEY S. MISCH-1284-4150.IPM_01748124.pdf

Date Response Provided: February 7, 2022

BAXTER & WOODMAN Consulting Engineers

90% Opinion of Probable Costs

Twin Lakes, IN - WWTP Expansion CUII 2019021
BWI - 181255.40

STRUCTURE		90% OPC
SITE WORK	$	788,000
SITE PIPING	$	1,945,000
INFLUENT JUNCTION CHAMBER	$	113,000
HEADWORKS	$	1,683,000
GRIT COLLECTOR		
RAW SEWAGE PUMP STATION	$	1,012,000
INFLUENT METER		
OXIDATION DITCH	$	3,145,000
SECONDARY CLARIFIER FLOW DIVISION BOX	$	226,000
SECONDARY CLARIFIER NO. 1	$	924,000
SECONDARY CLARIFIER NO. 2	$	924,000
UV DISINFECTION STRUCTURE	$	597,000
NON-POTABLE WATER BUILDING	$	322,000
RAS / WAS PUMP STATION	$	555,000
AEROBIC DIGESTER NO. 1	$	149,000
AEROBIC DIGESTER NO. 2	$	249,000
SLUDGE THICKENER BUILDING	$	1,151,000
THICKENED SLUDGE STORAGE	$	82,000
STORM CLARIFIER NO. 1 & NO. 2	$	67,000
EXCESS FLOW TANK NO. 1	$	428,000
EXCESS FLOW TANK NO. 2	$	332,000
OPERATIONS BUILDING	$	1,409,000
ELECTRICAL BUILDING	$	596,000
SUBTOTAL	**$**	**16,697,000**
CONTINGENCY @ 5%	$	835,000
TOTAL 90% OPC	**$**	**17,532,000**

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90% Opinion of Probable Costs - w. Grit

Twin Lakes, IN - WWTP Expansion CUII 2019021

BWI - 181255.40

STRUCTURE		90% OPC
SITE WORK	$	788,000
SITE PIPING	$	1,945,000
INFLUENT JUNCTION CHAMBER	$	113,000
HEADWORKS	$	1,683,000
GRIT COLLECTOR	$	791,000
RAW SEWAGE PUMP STATION	$	1,012,000
INFLUENT METER	$	-
OXIDATION DITCH	$	3,145,000
SECONDARY CLARIFIER FLOW DIVISION BOX	$	226,000
SECONDARY CLARIFIER NO. 1	$	924,000
SECONDARY CLARIFIER NO. 2	$	924,000
UV DISINFECTION STRUCTURE	$	597,000
NON-POTABLE WATER BUILDING	$	322,000
RAS / WAS PUMP STATION	$	555,000
AEROBIC DIGESTER NO. 1	$	149,000
AEROBIC DIGESTER NO. 2	$	249,000
SLUDGE THICKENER BUILDING	$	1,151,000
THICKENED SLUDGE STORAGE	$	82,000
STORM CLARIFIER NO. 1 & NO. 2	$	67,000
EXCESS FLOW TANK NO. 1	$	428,000
EXCESS FLOW TANK NO. 2	$	332,000
OPERATIONS BUILDING	$	1,409,000
ELECTRICAL BUILDING	$	596,000
SUBTOTAL	**$**	**17,488,000**
CONTINGENCY @ 10%	$	1,748,800
TOTAL 90% OPC	**$**	**19,236,800**

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COMMUNITY UTILITIES OF INDIANA, INC,

RESPONSE TO THE OUCC

DATA REQUEST OUCC 05.55

Witness Responsible:	Loren Grosvenor
Title:	State Operations Manager
Date Received:	February 25, 2022
Docket No.:	45651

OUCC 05.55:

Reference the Twin Lakes Headworks project listed in Table 1 on page 16 of Mr. Grosvenor's case-in-chief testimony. Please answer or provide the following:

a. Cost support for the $2,296,298 estimated cost. Please identify all costs including but not limited to construction, contingency, engineering, CUII cap time, AFUDC, and non-construction costs which total $2,296,298.

b. Description of all Headworks improvements that CUII proposes to build (e.g., influent sewer, influent meter, grit removal, screening, raw sewage pump station, odor control, etc.)

c. Design summary (average and peak flows, number of units, type of grit removal system, type of screen, type of flow meter, etc.)

d. Project design status.

e. Project permitting status.

f. Anticipated bid date and construction start date.

g. Costs incurred to date

h. Proposed layout of the Headworks and site plan

RESPONSE:

a. See Petitioner's Response to Data Request No. 3.12. The total cost for the Headworks Building includes: (i) the estimated cost of the facility at a 90% opinion of the probable cost multiplied by an inflation factor of 1.2, (ii) an additional 10% for engineering cost; and (iii) IDC and Cap Time costs. The engineering opinion is attached was OUCC 3.12 90% Simple OPC and shows a cost of $1,683,000. The amount added for inflation was $336,600. The estimated engineering cost are 10% of the project cost or approximate $200,000. The remaining approximately $75,000 represents cap time and IDC.

b. A new structure will be added to the head of the WWTP that will use a mechanical step screen to remove the non-biodegradable solids from wastewater. The new structure will also have a grit removal system to remove sand-like debris from wastewater before it enters the plant. Removal of these two types of solids will allow for more efficient solids removal and reduce future maintenance requirements within the WWTP as well as aid in the reduction of potential blockages and backups within the WWTP.

c. The project has not been designed as of yet.

d. See subpart c.

e. The permitting process has not been started.

f. The bid date has not been determined. We expect to award construction on or before November 1, 2022, and complete the project before September 30, 2023.

g. All costs incurred to date have been included in the proposed regulatory asset.

h. See subpart c.

Attachment:

N/A

Date Response Provided: March 7, 2022

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

Michael R. Pence
Governor

Carol S. Comer
Commissioner

May 20, 2016

VIA CERTIFIED MAIL 91 7190 0005 2710 0048 8701

Mr. Tom Tapella,
Midwest Regional Manager
Community Utilities of Indiana, Inc.
Formerly Twin Lakes Utilities, Inc.
10996 Four Seasons Place, Suite 100 G
Crown Point, Indiana 46307

Dear Mr. Tapella:

Re: 327 IAC 3 Construction
Permit Application
Plans and Specifications for
Twin Lakes Wastewater
Treatment Plant Improvements
Permit Approval No. 21843
Crown Point, Indiana
Lake County

The application, plans and specifications, and supporting documents for the above-referenced project have been reviewed and processed in accordance with rules adopted under 327 IAC 3. Enclosed is the Construction Permit (Approval No. 21843), which applies to the construction of the above-referenced proposed water pollution treatment/control facility improvements to be located at the existing wastewater treatment facility approximately 1,000 feet east of the intersection of East 123rd Avenue and Brookside Drive in the Town of Crown Point.

Please review the enclosed permit carefully and become familiar with its terms and conditions. In addition, it is imperative that the applicant, consulting architect/engineer (A/E), inspector, and contractor are aware of these terms and conditions.

It should be noted that any person affected or aggrieved by the agency's decision in authorizing the construction of the above-referenced facility may, within fifteen (15) days from date of mailing, appeal by filing a request with the Office of Environmental Adjudication for an adjudicatory hearing in accordance with IC 4-21.5-3-7 and IC 13-15-6. The procedure for appeal is outlined in more detail in Part III of the attached construction permit.

Plans and specifications were prepared by Strand Associates, Inc., and certified by Mr. Daniel J. Small, P.E., and submitted for review on February 10, 2016, with additional information submitted on April 15, and May, 4, 2016.

Any questions concerning this permit may be addressed to Ms. Alissa O'Donnell, of our staff, at 317/232-8646. Questions concerning appeal procedures should be addressed to the Office of Environmental Adjudication, at 317/232-8591.

Sincerely,

Dale T. Schnaith, Chief
Facility Construction and
Engineering Support Section
Office of Water Quality

Project No. PS-1527
Enclosures
cc: Lake County Health Department
Lake County Commissioner
Strand Associates, Inc.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
AUTHORIZATION FOR CONSTRUCTION OF
WATER POLLUTION TREATMENT/CONTROL FACILITY
UNDER 327 IAC 3

DECISION OF APPROVAL

Community Utilities of Indiana, Inc., in accordance with the provisions of IC 13-15 and 327 IAC 3 is hereby issued a permit to construct the water pollution treatment/control facility improvements to be located at the existing wastewater treatment facility approximately 1,000 feet east of the intersection of East 123rd Avenue and Brookside Drive in the Town of Crown Point. The permittee is required to comply with requirements set forth in Parts I, II and III hereof. The permit is effective pursuant to IC 4-21.5-3-4(d). If a petition for review and a petition for stay of effectiveness are filed pursuant to IC 13-15-6, an Environmental Law Judge may be appointed for an adjudicatory hearing. The force and effect of any contested permit provision may be stayed at that time.

NOTICE OF EXPIRATION DATE

Authorization to initiate construction of this pollution treatment/control facility shall expire at midnight June 1, 2017. In order to receive authorization to initiate construction beyond this date, the permittee shall submit such information and forms as required by the Indiana Department of Environmental Management. It is requested that this information be submitted sixty (60) days prior to the expiration date to initiate construction. This permit shall be valid for a period of five (5) years from the date below for full construction completion.

Signed this 20th day of May, 2016, for the Indiana Department of Environmental Management.

Dale T. Schnaith, Chief
Facility Construction and
Engineering Support Section
Office of Water Quality

WATER POLLUTION TREATMENT/CONTROL FACILITY DESCRIPTION

Community Utilities of Indiana, Inc. currently operates a Class III, 1.1 MGD extended aeration treatment plant consisting of a bar screen, comminutor, flow splitter box dividing wastewater flow between an aeration tank/clarifier package plant, and the North Battery (two aeration tanks and a secondary clarifier) and South Battery (two sets of two aeration tanks and a secondary clarifier.) The flow is recombined where it is directed to chlorination/dechlorination facilities and post aeration. The WWTP has both influent and effluent flow meters. Solids are aerobically digested in an aerobic digester and stored in a sludge storage tank. Digested sludge is land applied. The collection system is comprised of 100% separate sanitary sewers by design with no overflow or bypass points.

The proposed project involves an upgrade/expansion of the existing treatment plant headworks. The WWTP peak hourly flow capacity is not being upgraded and will remain the same at 3.58 MGD. The proposed project will include:

- Construction of a junction box which includes existing incoming piping for the influent wastewater flow, a slide gate for the existing outgoing piping to the manually cleaned bar screen, and a slide gate for the new outgoing channel to the proposed headworks building.
- Construction of a new headworks building.
- Installation of a mechanically cleaned fine step-screen and wash press.
- Installation of a forced vortex grit collector, grit washer, and grit pump that will have a capacity of 250 GPM at approximately 25 feet of total dynamic head (TDH).
- Construction of an influent 12-inch parshall flume and installation of an ultrasonic liquid level transducer.
- The existing 9-inch parshall flume structure will be converted into a second junction box. The proposed junction box includes a slide gate for the existing incoming piping from the manually cleaned bar screen, a slide gate for the proposed incoming channel from the proposed 12-inch parshall flume, and existing outgoing piping to the flow splitter structure. A backup influent ultrasonic transducer and weir structure will be built into the second junction box when the new headworks building and parshall flume are bypassed.

CONDITIONS AND LIMITATIONS TO THE AUTHORIZATION FOR CONSTRUCTION OF WATER POLLUTION TREATMENT/CONTROL FACILITY

During the period beginning on the effective date of this permit and extending until the expiration date, the permittee is authorized to construct the above described water pollution treatment/control facility. Such construction shall conform to all provisions of State Rule 327 IAC 3 and the following specific provisions:

PART I

SPECIFIC CONDITIONS AND LIMITATIONS TO THE CONSTRUCTION PERMIT

Unless specific authorization is otherwise provided under the permit, the permittee shall comply with the following conditions:

1. All local permits shall be obtained before construction is begun on this project.

2. If pollution or nuisance conditions are created, immediate corrective action will be taken by the permittee.

3. Additional treatment facilities shall be installed if the proposed facilities prove to be inadequate or cannot meet applicable federal or state requirements.

4. If construction is located within a floodway, a permit may also be required from The Department of Natural Resources prior to the start of construction. It is the permittee's responsibility to coordinate with that agency and obtain any required approvals if applicable. Questions may be directed to the Technical Services Section, Division of Water at 317/232-4160.

5. If this project includes a change in design flow, addition of new treatment unit(s), or modification/removal of existing treatment unit(s), an NPDES Permit modification will likely be required. This would include any CSO treatment addition/modification. Questions may be directed to the NPDES Permit Section, Office of Water Quality at 317/233-0469.

Failure to meet guidelines as set forth in the above conditions could be subject to enforcement proceedings as provided by 327 IAC 3-5-3.

PART II

GENERAL CONDITIONS

1. No significant or material changes in the scope of the plans or construction of this project shall be made unless the following provisions are met:

   a. Request for permit modification is made 60 days in advance of the proposed significant or material changes in the scope of the plans or construction;

   b. Submit a detailed statement of such proposed changes;

   c. Submit revised plans and specifications including a revised design summary; and

   d. Obtain a revised construction permit from this agency.

2. This permit may be modified, suspended, or revoked for cause including, but not limited to the following:

   a. Violation of any term or conditions of this permit;

   b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts.

3. Nothing herein shall be construed as guaranteeing that the proposed water pollution treatment/control facility shall meet standards, limitations or requirements of this or any other agency of state or federal government, as this agency has no direct control over the actual construction and/or operation of the proposed project.

PART III

APPEALS PROCEDURE

Anyone wishing to challenge this agency's decision for authorizing the construction of this facility may do so, provided that a petition for administrative review is filed as required by IC 4-21.5-3-7. The petition must be submitted within fifteen (15) days of the date of mailing of this permit notification. The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by this decision, or otherwise entitled to review by law. Additionally, IC 13-15-6-2 requires that your petition include:

1. The name and address of the person making the request;

2. The interest of the person making the request;

3. Identification of any persons represented by the person making the request;

4. The reasons, with particularity, for the request;

5. The issues, with particularity, proposed for consideration at the hearing; and

6. Identification of the permit terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing permits of the type granted or denied by the Assistant Commissioner's action.

7. Pursuant to IC 4-21.5-3-1(f), any document serving as a petition for review or review and stay must be filed with the Office of Environmental Adjudication. Filing of such a document is complete on the earliest of the following dates:

   a. The date on which the petition is delivered to the Office of Environmental Adjudication, Indiana Government Center North, 100 North Senate Avenue, Room 501, Indianapolis, Indiana 46204;

   b. The date of the postmark on the envelope containing the petition, if the petition is mailed by United States mail; or

   c. The date on which the petition is deposited with a private carrier, as shown by a receipt issued by the carrier, if the petition is sent by private carrier.

Wastewater Treatment Facility
Design Summary

I. GENERAL

1. Applicant: Community Utilities of Indiana, Inc. (Formerly Twin Lakes Utilities, Inc.)
2. Project Name and Location: Twin Lakes WWTP Headworks Improvements
   Crown Point, IN
3. Project Number: PS-1527
4. Engineer (Consultant): Strand Associates, Inc.
5. NPDES Permit Number: IN0037176
   A. Date of Final Permit Issuance: 2/8/2013
   B. Expiration Date: 5/31/2018
6. Remarks:
   A. Description of Present Situation: Community Utilities of Indiana, Inc. currently operates a Class III, 1.1 MGD extended aeration treatment plant consisting of a bar screen, comminutor, flow splitter box dividing wastewater flow between an aeration tank/clarifier package plant, and the North Battery (two aeration tanks and a secondary clarifier) and South Battery (two sets of two aeration tanks and a secondary clarifier.) The flow is recombined where it is directed to chlorination/dechlorination facilities and post aeration. The WWTP has both influent and effluent flow meters. Solids are aerobically digested in an aerobic digester and stored in a sludge storage tank. Digested sludge is land applied. The collection system is comprised of 100% separate sanitary sewers by design with no overflow or bypass points.

   B. Description of Proposed Facilities: The proposed project involves an upgrade/expansion of the existing treatment plant headworks. The WWTP peak hourly flow capacity is not being upgraded and will remain the same at 3.58 MGD. The proposed project will include:

      - Construction of a junction box which includes existing incoming piping for the influent wastewater flow, a slide gate for the existing outgoing piping to the manually cleaned bar screen, and a slide gate for the new outgoing channel to the proposed headworks building.
      - Construction of a new headworks building.
      - Installation of a mechanically cleaned fine step-screen and wash press.
      - Installation of a forced vortex grit collector, grit washer, and grit pump that will have a capacity of 250 GPM at approximately 25 feet of total dynamic head (TDH).
      - Construction of an influent 12-inch parshall flume and installation of an ultrasonic liquid level transducer.

- The existing 9-inch parshall flume structure will be converted into a second junction box. The proposed junction box includes a slide gate for the existing incoming piping from the manually cleaned bar screen, a slide gate for the proposed incoming channel from the proposed 12-inch parshall flume, and existing outgoing piping to the flow splitter structure. A backup influent ultrasonic transducer and weir structure will be built into the second junction box when the new headworks building and parshall flume are bypassed.

7. Estimated Project Cost: $1,450,000
   A. Source of funding: Private

II. DESIGN DATA

1. Current Population: 9,530
2. Design P.E.: 11,000 (0.17 lb BOD/PE)
3. Average Design Flow: 1.10 MGD
4. Peak Design Flow: 3.58 MGD
5. Maximum Plant Flow Capacity: 3.58 MGD
6. Design Waste Strength
   A. CBOD: 204 mg/L
   B. TSS: 240 mg/L
   C. NH3-N: 25 mg/L
   D. P: 10 mg/L
7. NPDES Permit Limitation on Effluent Quality:
   A. CBOD: 17 mg/L summer, 25 mg/L winter (monthly average)
   B. SS: 20 mg/L summer, 30 mg/L winter (monthly average)
   C. NH_3-N: 1.3 mg/L summer, 1.8 mg/L winter (monthly average)
   D. P: n/a
   E. E. Coli: 235 count/100 mL (daily max), 125 count/100 mL (monthly average)
   F. Chlorine Residual: 0.01 mg/L (monthly average), 0.02 mg/L (daily maximum)
   G. pH: 6.0 – 9.0 s.u.
   H. D.O. (daily minimum): 6.0 mg/L summer, 5.0 mg/L winter
9. Receiving Stream:
   A. Name: East Branch of Stoney Run
   B. Tributary to: Stoney Run to Brown Ditch to Singleton Ditch to the Kankakee River
   C. Stream Uses: General
   D. 7-day, 1-in-10 year low flow: 0 cfs

III. TREATMENT UNITS

Comminutor (Existing, Unchanged)

Flow Meter (New)

1. Type: Influent 12-inch Parshall Flume / Influent Ultrasonic Transducer
2. Location: Downstream of screening and grit removal and upstream of mixed liquor splitter box / Downstream of coarse bar screen in proposed junction box 2
3. Indicating, recording and totalizing: Yes, indicating GPM.

Grit Chamber (New)

1. Type of grit chamber: Forced Vortex
2. Number of units: 1
3. Size of unit: 10' diameter
4. Method of velocity control: Gravity
5. Velocity in the chamber: 2.32 feet/sec approach velocity @ 7.0 MGD peak flow
6. Drain provided: No
7. Facilities to isolate: Yes, slide gate in proposed junction box 1
8. Method of cleaning: grit goes to washer for further cleaning and dewatering prior to disposal
9. Disposal of grit: dumpster

Screens (New fine screen. Existing coarse bar screen will be used for bypass of proposed headwork building.)

1. Type: Fine step-screen
2. Number and capacity: One (1) @ 7.0 MGD
3. Bar spacing and slope: 1/4 inch, 53 degrees
4. Method of cleaning: screen is self-cleaning; screenings go to wash press for further cleaning and dewatering prior to disposal
5. Disposal of screenings: dumpster
6. By-pass (overflow) bar screen: Yes

Activated Sludge (Existing, Unchanged)

Secondary Clarifiers (Existing, Unchanged)

Post-aeration (Existing, Unchanged)

Nitrification System (Existing, Unchanged)

Phosphorus Removal Facilities (Existing, Unchanged)

Disinfection (Existing, Unchanged)

Aerobic Digesters (Existing, Unchanged)

Sludge Storage Tank (Existing)

Sludge Disposal (Existing, Unchanged)

V. MISCELLANEOUS

A. Laboratory equipment: Existing
B. Safety equipment: Existing
C. Plant site fence: Existing
D. Handrail for the tanks: Yes (where required)
E. Provisions to maintain the same degree of treatment during construction: Yes
F Standby power equipment: Yes, on site generator
G. Site inspection: Yes
H. Statement in the specifications as to the protection against any adverse environmental effect (e.g., dust. noise, soil erosion) during construction: Yes
I. Hoists for removing heavy equipment: No

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We make Indiana a cleaner, healthier place to live

Frank O'Bannon
Governor

Michael O'Connor
Commissioner

100 North Senate Avenue
P.O. Box 6015
Indianapolis, Indiana 46206-6015
Telephone 317-232-8603
Environmental Helpline 1-800-451-6027

May 1, 1997

VIA CERTIFIED MAIL P 451 358 136

Mr. Andrew Dopuch, Vice President
Twin Lakes Utilities, Inc.
2335 Sanders Road
Northbrook, Illinois 60062

Dear Mr. Dopuch:

Re: 327 IAC Article 3 Construction
Permit Application
Plans and Specifications for
Wastewater Treatment Facilities Upgrade
Twin Lakes Utilities, Inc.
Permit Approval No. 10731
Lake County, Indiana

The application, plans and specifications, and supporting documents for the above-referenced project have been reviewed and processed in accordance with rules adopted under 327 IAC Article 3. Enclosed is the Construction Permit (Approval No. 10731), which applies to the construction of the above-referenced proposed water pollution treatment/control facility to be located at 9201 East 123rd Avenue in Lake County, Indiana.

Please review the enclosed permit carefully and become familiar with its terms and conditions. In addition, it is imperative that the applicant, consulting architect/engineer (A/E), inspector, and contractor are aware of these terms and conditions.

It should be noted that any person affected or aggrieved by the agency's decision in authorizing the construction of the above-referenced facility may, within fifteen (15) days from date of mailing, appeal by filing a request with the Office of Environmental Adjudication for an adjudicatory hearing in accordance with IC 4-21.5-3-7 and IC 13-15-6. The procedure for appeal is outlined in more detail in Part III of the attached construction permit.

Plans and specifications were prepared by Rezek, Henry, Meisenheimer and Gende, Inc., and certified by Mr. Joseph W. Rezek, P.E., and submitted for review on February 10, 1997, with additional information submitted on February 28, and April 21, 1997.

Any questions concerning this permit may be addressed to Mr. Dale Schnaith, of our staff, at 317/232-8657. Legal questions or questions concerning appeal procedures should be addressed to the Office of Legal Counsel, at 317/232-8493.

Sincerely,

Kenneth A. Lee

Kenneth A. Lee, Chief
Facility Construction Section
Office of Water Management

DTS/cd
Project No. PS-0679
Enclosures
cc: Lake County Health Department
Lake County Commissioner
Rezek, Henry, Meisenheimer and Gende, Inc.
Mr. Keith Wilgus
Mr. Timothy Geeve
Ms. Mary Ann Lindgrin
Resident
Resident
Resident
Mr. Peter Santilic
Resident
Mr. Brian Hensley, Jr.
Ms. Sally Stanojevic
Resident
Resident
Resident
Lakes of the Four Seasons P.O.A.
DBL Development

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
AUTHORIZATION FOR CONSTRUCTION OF
WATER POLLUTION TREATMENT/CONTROL FACILITY
UNDER 327 IAC ARTICLE 3

DECISION OF APPROVAL

Twin Lakes Utilities, Inc., in accordance with the provisions of IC 13-15 and 327 IAC Article 3 is hereby issued a permit to construct the water pollution treatment/control facility to be located at 9201 East 123rd Avenue in Lake County, Indiana. The permittee is required to comply with requirements set forth in Parts I, II and III hereof. The permit is effective pursuant to IC 13-15-5-3, IC 4-21.5-3-4(d). If a petition for review and a petition for stay of effectiveness are filed pursuant to IC 13-15-6, an Environmental Law Judge may be appointed for an adjudicatory hearing. The force and effect of any contested permit provision may be stayed at that time.

NOTICE OF EXPIRATION DATE

This permit and the authorization to initiate construction of this pollution treatment/control facility shall expire at midnight June 1, 1998. In order to receive authorization to begin construction beyond the date of expiration, the permittee shall submit such information and forms as are required by the Indiana Department of Environmental Management at least sixty (60) days prior to the expiration date.

Signed this 1ST day of MAY, 1997, for the Indiana Department of Environmental Management.

Kenneth A. Lee, Chief
Facility Construction Section
Office of Water Management

WATER POLLUTION TREATMENT/CONTROL FACILITY DESCRIPTION

Twin Lakes Utilities presently operates a 0.90 MGD contact stabilization treatment facility with effluent chlorination followed by an aerated lagoon and settling lagoon. The plant has experienced numerous NPDES permit exceedances in recent years and is in need of upgrade/expansion.

The existing treatment plant will be modified and upgraded to a 1.10 MGD extended-aeration type wastewater treatment facility including phosphorous removal, chlorination/dechlorination, and post-aeration. The proposed improvements will include the following additions and modifications:

- Replacement of existing comminutor.
- Addition of new chamber at the end of existing Parshall flume for injection of new chemical feed line (Fe Cl_3).
- Addition of new flow control structure for flow splitting capability.
- Addition of two (2) new concrete aeration tanks to the four (4) existing concrete tanks.
- Addition of a new circular steel tank package plant consisting of aeration and aerobic digester compartments along with a circular final clarifier in the center.
- Continued use of two (2) existing final clarifiers.
- Continued use of an existing aerobic digester.
- Addition of a new steel sludge storage tank.
- Addition of a new chlorine contact tank and post-aeration chamber.
- Improvements to existing chlorine feed equipment.
- Addition of dechlorination equipment and new fiberglass housing structure.
- Addition of a new 600 KW emergency power generator.
- Abandon existing lagoon system.
- Construct new discharge pipe and outfall.
- Addition of V-notch ultrasonic effluent flow monitoring.

The expanded facility will split flow equally between the new package plant and the combined existing and new concrete aeration tanks. The expanded design flow capacity will be 1.10 MGD with a design peak flow of 3.58 MGD.

CONDITIONS AND LIMITATIONS TO THE AUTHORIZATION FOR CONSTRUCTION OF WATER POLLUTION TREATMENT/CONTROL FACILITY

During the period beginning on the effective date of this permit and extending until the expiration date, the permittee is authorized to construct the above described water pollution treatment/control facility. Such construction shall conform to all provisions of State Rule 327 IAC Article 3 and the following specific provisions:

PART I

SPECIFIC CONDITIONS AND LIMITATIONS TO THE CONSTRUCTION PERMIT

Unless specific authorization is otherwise provided under the permit, the permittee shall comply with the following conditions:

1. All local permits shall be obtained before construction is begun on this project.

2. If pollution or nuisance conditions are created, immediate corrective action will be taken by the permittee.

3. Plans for construction in a floodway must be submitted to the Department of Natural Resources for consideration of approval prior to the start of construction.

4. If sludge handling problems arise due to the chemical addition, the digester capacity and/or dewatering facilities shall be expanded.

5. The sewage treatment plant must be capable of providing the same degree of treatment during construction as prior to expansion of the existing facilities. If this is not feasible, the plans for reduced degree of treatment must be submitted to the Department of Environmental Management for consideration of approval.

6. Plans for the outfall structure shall be submitted to the Department of Natural Resources for consideration of approval prior to the start of construction.

Failure to meet guidelines as set forth in the above conditions could be subject to enforcement proceedings as provided by 327 IAC 3-5-3.

PART II

GENERAL CONDITIONS

1. No significant or material changes in the scope of the plans or construction of this project shall be made unless the following provisions are met:

   a. Request for permit modification is made 60 days in advance of the proposed significant or material changes in the scope of the plans or construction;

   b. Submit a detailed statement of such proposed changes;

   c. Submit revised plans and specifications including a revised design summary; and

   d. Obtain a revised construction permit from this agency.

2. This permit may be modified, suspended, or revoked for cause including, but not limited to the following:

   a. Violation of any term or conditions of this permit;

   b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts.

3. Nothing herein shall be construed as guaranteeing that the proposed water pollution treatment/control facility shall meet standards, limitations or requirements of this or any other agency of state or federal government, as this agency has no direct control over the actual construction and/or operation of the proposed project.

PART III

APPEALS PROCEDURE

Anyone wishing to challenge this agency's decision for authorizing the construction of this facility may do so, provided that a petition for administrative review is filed as required by IC 4-21.5-3-7. The petition must be submitted within fifteen (15) days of the date of mailing of this permit notification. The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by this decision, or otherwise entitled to review by law. Additionally, IC 13-15-6-2 requires that your petition include:

1. The name and address of the person making the request;

2. The interest of the person making the request;

3. Identification of any persons represented by the person making the request;

4. The reasons, with particularity, for the request;

5. The issues, with particularity, proposed for consideration at the hearing; and

6. Identification of the permit terms and conditions which, in the judgement of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing permits of the type granted or denied by the Assistant Commissioner's action.

7. Pursuant to IC 4-21.5-3-1(f), any document serving as a petition for review or review and stay must be filed with the Office of Environmental Adjudication. Filing of such a document is complete on the earliest of the following dates:

   a. The date on which the petition is delivered to the Office of Environmental Adjudication, ISTA Building, 150 West Market Street, Suite 618, Indianapolis, Indiana 46204;

   b. The date of the postmark on the envelope containing the petition, if the petition is mailed by United States mail; or

   c. The date on which the petition is deposited with a private carrier, as shown by a receipt issued by the carrier, if the petition is sent by private carrier.

Checklist for Construction Project
Design Summary

I. GENERAL

1. Applicant: Twin Lakes Utilities, Inc.

2. Project Name and Location: WWTP Upgrade

3. Project Number: PS-0679

4. Engineer (Consultant): Rezek, Henry, Meisenheimer and Gende, Inc.

5. NPDES Permit Number: IN 0037176

   A. Date of Interim Permit Issuance: February 21, 1996

   B. Expiration Date: January 31, 2001

6. Remarks:

   A. Description of Present Situation: Twin Lakes Utilities presently operates a 0.90 MGD contact stabilization treatment facility with effluent chlorination followed by an aerated lagoon and settling lagoon. The plant has experienced numerous NPDES permit exceedances in recent years and is in need of upgrade/expansion.

   B. Description of Proposed Facilities: The existing treatment plant will be modified and upgraded to a 1.10 MGD extended-aeration type wastewater treatment facility including phosphorous removal, chlorination/dechlorination, and post-aeration. The proposed improvements will include the following additions and modifications:

      - Replacement of existing comminutor.

      - Addition of new chamber at the end of existing Parshall flume for injection of new chemical feed line (FE Cl_3).

      - Addition of new flow control structure for flow splitting capability.

      - Addition of two (2) new concrete aeration tanks to the four (4) existing concrete tanks.

- Addition of a new circular steel tank package plant consisting of aeration and aerobic digester compartments along with a circular final clarifier in the center.
- Continued use of two (2) existing final clarifiers.
- Continued use of an existing aerobic digester.
- Addition of a new steel sludge storage tank.
- Addition of a new chlorine contact tank and post-aeration chamber.
- Improvements to existing chlorine feed equipment.
- Addition of dechlorination equipment and new fiberglass housing structure.
- Addition of a new 600 KW emergency power generator.
- Abandon existing lagoon system.
- Construct new discharge pipe and outfall.
- Addition of V-notch ultrasonic effluent flow monitoring.

The expanded facility will split flow equally between the new package plant and the combined existing and new concrete aeration tanks. The expanded design flow capacity will be 1.10 MGD with a design peak flow of 3.58 MGD.

7. Estimated Project Cost: $1,795,000

II. DESIGN DATA

1. Current Population: 9,000
2. Design Year and Population: 11,000; Year 2000
3. Design Flow: 1.10 MGD
4. Average Design Peak Flow: 3.58 MGD

5 Design Waste Strength

A. CBOD : 204 mg/l

B. TSS: 240 mg/l

C. NH_3-N: 25 mg/l

D. P: 10 mg/l

6. NPDES Permit Limitation on Effluent Quality: (proposed limits from 12/1/93 letter)

B. CBOD : 17 mg/l (summer)
25 mg/l (winter)

B. SS: 21.6 mg/l (summer)
30.0 mg/l (winter)

C. NH_3-N: 1.3 mg/l (summer)
1.8 mg/l (winter)

D. P: 1.0 mg/l

E. Chlorine Residual: 0.5 - 1.0 mg/l (contact tank)
0.01 mg/l (final effluent)

F. pH: 6.0 - 9.0

G. D.O.: 6.0 mg/l (summer)
5.0 mg/l (winter)

7. Receiving Stream:

A. Name: East Branch of Stoney Run

B. Tributary to: Stoney Run to Brown Ditch to Singleton Ditch to the Kankakee River

C. 7-day, 1-in-10 year low flow: 0.0 cfs

III. TREATMENT UNITS

Flow Meters

1. Type: Existing Parshall flume
   New V-notch weir ultrasonic flow meters (2)

2. Location: Plant influent (flume)
   End of chlorine contact tanks (V-notch weirs)

3. Indicating, recording and totalizing: Yes

Comminutors (new)

1. Type: Muffin Monster grinder

2. Location: Existing comminutor structure upstream from Parshall flume

3. Maximum capacity: 5.50 MGD

4. By-pass (over flow) bar screen: Coarse bar screen

Screens (existing)

1. Type: Manual (comminutor by-pass)

2. Number and capacity: One, 5.50 MGD

3. Bar spacing and slope: 1 1/2-INCH, 55^0 SLOPE

4. Method of cleaning: Manual raking

5. Disposal of screenings: Landfill

Activated Sludge

1. Type of activated sludge process: Extended aeration

2. Number and size of units:

   2 existing concrete tanks @ 24 ft. x 19.5 x 14 ft. SWD
   2 existing concrete tanks @ 24 ft. x 36 ft. x 14 ft. SWD
   2 new concrete tanks @ 24 ft. x 37 ft. x 14 ft. SWD
   62,160 cf total
   New package plant tank 62,333 cf

3. Detention time (hrs): 20.3 hours @ 1.1 MGD

4. Organic loading (lb BOD /1000 cf): 15 lbs. BOD/1,000 cf

5. Type of aeration equipment: Fine bubble diffused aeration

6. Type and size of blowers: Centrifugal blowers
3 existing and 1 new @ 2,100 scfm each

7. Air required (itemize, cfm):

Aeration tanks	4,617 scfm
Digesters	1,238 scfm
Post aeration	110 scfm
Air lifts	60 scfm
Total	6,025 scfm

8. Provisions for speed adjustment: Constant speed

9. Air provided: 6,300 scfm (w/one standby blower)

10. Ventilation in the blower room: Yes

11. Number and capacity of return sludge pump: 3 existing 650 gpm pumps
New 6-inch air lift (new package plant)

12. Method of return sludge rate control: VFD's on existing pumps
Air rate control for air lift

13. Return sludge rate as % of design flow: 0 - 150%

14. Provisions for return rate metering:

Magnetic meter on existing return lines and V-notch weir at new package plant air lift

15. Location of return sludge discharge: Aeration tanks

16. Facilities to isolate units: Valves on influent lines

17. Facilities for flow split control: New flow control structure

Secondary Clarifiers

1. Type of clarifiers: Circular
2. Number and size of units: Two existing 34 ft. diameter
   One new 48 ft. diameter x 12 ft. SWD (in package plant)
3. Surface settling rate (gpd/sf):
   a. at the design flow: 303 gpd/sf @ 1.10 MGD
   b.. at peak design flow: 987 @ 3.58 MGD
4. Detention time (hrs): 7.1 hours @ 1.10 MGD
5. Type of sludge removal mechanism: Mechanical scraper arms
6. Weir overflow rate: 11,200 gpd/ft @ 3.58 MGD
7. Disposal of scum: Aerobic digesters
8. Facilities for unit isolation: Influent valves
9. Facilities for flow split control: Flow split control between new package plant and existing treatment units

Post-aeration (new)

1. Type of aeration: Fine bubble diffused aeration
2. Number of units: One
3. Size of units: 21 ft. x 10 ft. x 9 ft. SWD
4. Aeration provided: 110 scfm
5. Expected effluent DO: > 6.0 mg/l

Nitrification System

1. Type of nitrification system: Extended aeration, single stage nitrification
2. Ammonia loading: 746 lbs/day @ peak flow
3. Additional oxygen demand: 3,432 lbs. O_2/day @ peak flow

4. Air supply system: Fine bubble diffused air (refer to activated sludge)

5. Hydraulic detention time: 20.3 hours

6. Mean cell residence time (days):

   Approximately 25 days @ 3,500 mg/l MLSS

Phosphorus Removal Facilities (modified)

1. Type of chemical to be used: Ferrous Chloride ($Fe\ Cl_3$)

2. Location of chemical injection: New chamber at the end of existing Parshall flume, prior to new flow control structure

3. Number and size of chemical feed pumps: Two, 0.04 - 8.0 gph (one new)

4. Size of chemical storage tank: Existing 3,000 gallon tank

5. Capacity of spill storage space: Existing

6. Chemical dosage: 2.5 gph

7. Daily chemical consumption expected: 48 gallons per day

8. Other facilities - describe: 200 gallon day tank

Disinfection (new contact tank)

1. Type of disinfectant used: Chlorine gas

2. Size of contact tank: Two, 38 ft. x 10 ft. x 10 ft. SWD each

3. Contact time: 22 minutes @ 3.58 MGD

4. Type of disinfectant feeders: Existing vacuum chlorinator
   Two new 15 gpm submersible dilution pumps

5. Capacity of the feeders: 200 lbs./day

6. Disinfectant dosage: 5 - 10 mg/l Cl_2

7. Bypass: Not needed, two separate tanks

8. Ventilation in chlorine room: Existing

9. Safety equipment: Existing

De-Chlorination (new)

1. Chemical used: Sodium bisulfite

2. Type of feeders: Solution feed metering pumps

3. Capacity of feeders: Three pumps, 0.5 gph each

4. Type of diffuser: 1-inch diameter PVC pipe with 1/8-inch orifices
15 gpm submersible dilution pumps (2)

5. Diffuser location: Effluent end of each chlorine contact tank

6. Equipment location: New fiberglass building

7. Ventilation provided: Exhaust fan and intake louver

8. Safety equipment: Yes

Aerobic Digesters

1. Number and size of units: One existing, 24 ft. x 48 ft. x 14 ft. SWD (16,128 cf)
One new, in package plant (25,122 cf)

2. Detention time: 64 days @ 3.0% solids w/decanting

3. Organic Loading: 1,200 lbs./day

4. Air supply: 1,238 scfm total

5. Decanting method: Telescopic valves

Sludge Storage Tank

1. Number and size of unit:

One, 70 ft. diameter x 14 ft. SWD (400,000 gal.)

2. Storage capacity: 97 days @ 3.5% solids w/decanting

3. Aeration and mixing: Two floating draft tube shaft propeller aerator/mixers, 40 horsepower each

4. Decanting method: Telescopic valve

Sludge Disposal

1. Ultimate disposal method of sludge: Liquid sludge land application

2. Expected solids content of sludge (by the principal method of disposal): 2.0 - 3.5%

3. Location of disposal site: Town of Hebron, Porter County

4. Ownership of the disposal site: Twin Lakes Utilities, Inc. (68 acres)

5. Availability of sludge transport equipment: Yes

IV. MISCELLANEOUS

A. Laboratory equipment: Existing, sample analysis contracted

B. Safety equipment: Existing

C. Plant site fence: Existing modified

D. Handrail for the tanks: Yes

E. Provisions to maintain the same degree of treatment during construction: Yes

F. Standby power equipment: New 600 KW generator

G. Site inspection: Yes

H. Statement in the specifications as to the protection against any adverse environmental effect (e.g., dust, noise, soil erosion) during construction: Yes

I. Hoists for removing heavy equipment: Yes

10731S

COMMUNITY UTILITIES OF INDIANA, INC,

RESPONSE TO THE OUCC

DATA REQUEST OUCC 09.01

Witness Responsible:	Loren Grosvenor
Title:	State Operations Manager
Date Received:	April 8, 2022
Docket No.:	45651

OUCC 09.01

Reference Grosvenor's testimony on page 26 regarding headworks which reads: "The headworks hydraulic capacity is inadequate and leads to surcharging of the collection system."
Please answer or provide the following:

1) Has blinding of the manually cleaned bar screen caused basement back-ups or sanitary sewer overflows ("SSOs") from manholes in the collection system in the last five years? If so, please state the dates these back-ups or SSOs occurred.
2) Have basement back-ups or sanitary sewer overflows ("SSOs") occurred in the collection system by capacity issues not caused by blinding of the manually cleaned bar screen in the last five years? If so, please state the dates that these back-ups or SSOs occurred.
3) Design peak hydraulic capacities for the following:
   a. Influent sewers and force main entering the manhole just upstream of the Comminutor structure (identify the size and peak capacity of each sewer and the force main)
   b. Comminutor structure (before the comminutor was removed)
   c. Bar screen,
   d. Parshall flume
   e. Flow Control Structure,
   f. Discharge pipes from the Flow Control Structure to
      i. Package Plant
      ii. North Aeration Basins
      iii. South Aeration Basins
4) Original design hydraulic capacity calculations for headworks.
5) Design peak hydraulic capacities for each portion of the proposed headworks improvements (influent sewers, metering structure, screens, pump station, etc.)

OBJECTION:

Petitioner objects to the foregoing Data Request to the extent it requests information or records that are not in Petitioner's possession or requests that Petitioner conduct a study or analysis that does not currently exist. Petitioner further objects to the foregoing Data Request on the grounds that it is vague and ambiguous. Subject to and without waiving these objections, Petitioner provides the following response.

RESPONSE:

1) CUII cannot definitively say that blinding of the manually cleaned bar screens has itself directly caused basement back-ups, but it does, at a minimum, contribute to them. The blinding of the manual bar screens creates sewers to be surcharged in the gravity collection system. As a result, CUII has seen basement back-ups just upstream of the headworks on the gravity collection system. Moreover, to prevent blinding CUII personnel must be ready to manually clean the bar screens any time adverse weather is predicted. A list of basement back-ups and SSOs was provided in response to Data Request No. 4.11.

2) Yes. Petitioner incorporates by reference its response to OUCC Data Request No. 9.01(1) and the list provided in response to Data Request No. 4.11.

3) Design peak hydraulic capacities, which are calculated based on the end of the entire system (the outfall) back to the point in question:

    a. The manhole is hydraulically limited at 5.0 MGD to maintain an 18" freeboard. Petitioner does not have the values for each influent pipe.
    b. Petitioner does not have this value.
    c. Hydraulically limited at 5.3 MGD to maintain an 18" freeboard.
    d. Hydraulically limited at 5.7 MGD to maintain an 18" freeboard.
    e. Hydraulically limited at 5.1 MGD to maintain an 18" freeboard.
    f. Petitioner objects to subpart (f) on the grounds that the question is vague and ambiguous. While one could calculate the flow that the discharge pipes can accept, that does not relate to the flow that the plant can accept due to other limitations at the plant and biological activity limitations. Just because a pipe can pass a certain amount hydraulically does not mean it should. Subject to and without waiving the foregoing objection, Petitioner submits the responses set forth below.
        i. Hydraulically limited at 3.0 MGD to maintain an 18" freeboard (this is total plant forward flow, Package Plant can only accept 1.52 MGD).
        ii. Hydraulically limited at 5.4 MGD to maintain an 18" freeboard (this is total plant forward flow, North Train can only accept 1.06 MGD).
        iii. Hydraulically limited at 8.0 MGD to maintain an 18"" freeboard (this is total plant forward flow, North Train can only accept 1.55 MGD).

4) The original headworks was designed for peak hourly flow of 7.10 MGD.

5) The influent junction chamber, metering structure, and screens have been designed to handle 14 MGD. The pumps are designed for 6.6 MGD. When 6.6 MGD is reached, “storm mode” is activated, and the flow is moved via gravity to the excess flow tanks.

See also, attachment “OUCC 09.01 Tech Memo_Existing Hydraulic Profile w. Attachments”.

Attachment:

OUCC 09.01 Tech Memo_Existing Hydraulic Profile w. Attachments.pdf

Date Response Provided: April 18, 2022

TECHNICAL MEMORANDUM

DATE: January 6, 2020
TO: Community Utilities of Indiana, Inc.
FROM: Baxter & Woodman, Inc.
SUBJECT: Existing Hydraulic Profile Review

The purpose of this memorandum is to present the current hydraulic state of the existing treatment system using the Hydraulic Profile prepared for the Twin Lakes Wastewater Treatment Plant (WWTP) in Crown Point, IN.

There are two trains of secondary treatment at the plant.

- Flow through the Package Plant which treats approximately 50% of the influent flow, and
- Flow through the North and South Aeration Tanks, which treats approximately 19% and 31% of the influent flow, respectively.

The operations staff have identified instances of hydraulic limitations in the existing system during high flow events. During storm events, staff must set up portable pumps in the existing influent splitter structure (flow control structure) to avoid overflowing of the North and South Aeration Tanks, the influent structure, and upstream manholes. A hydraulic profile was generated to identify the flow rates certain structures begin to exceed the Recommended Standards for Sewage Treatment Works (10 States Standards, or Standards) with a freeboard less than 18", and at which point these structures have reportable overflow events.

Existing Plant Hydraulic Profile

The attached Hydraulic Profile indicates the water level (WL) at each junction in the flow process for various flow rates. The flow rates identified include the existing low flow of 0.3 MGD, the current daily average flow of 0.9 MGD, the existing design average flow (DAF) of 1.1 MGD, the proposed DAF assuming a 30% reduction in I/I through collection system improvements of 1.3 MGD (reduced DAF), the calculated proposed DAF of 1.6 MGD from the Commonwealth Facility Plan Report; and the 30% reduced design maximum flow (DMF), storm flow (SF), and peak instantaneous flow (PIF) of 3.5, 4.8, and 10 MGD, respectively.

Hydraulic profiles are calculated from the effluent of the system upstream through the treatment process up to the raw sewage influent at the very first structure at the WWTP. In the case of this facility, those locations would be the Outfall Pipe back through the system to the Influent Manhole.

There are three main Hydraulic splits in this treatment system moving backwards through the system. The first major split comes as the flow from the Chlorine Contact Tanks splits to the Secondary Clarifier effluent pipes from the Package Plant and North and South Aeration Tanks Secondary Clarifiers. The Package Plant flow split accounts for 50% of the effluent, and the North and South Aeration Tanks combined account for the other 50% of the flow. The second major split occurs where the combined flow from the North and South Aeration Tank Secondary Clarifiers splits at the influent to the clarifiers where 31% of the flow goes to the South Aeration Tanks and 19% of the flow goes to the North Aeration Tanks. The third and final split is at the Influent Junction Chamber where the flow from the Package Plant, North Aeration Tanks, and South Aeration Tanks combine back to one single structure.

Including losses for all fittings and hydraulic processes on all three of these trains, there are several areas of concern where, at various flow rates, the freeboard of 18" from the top of the tank wall to the water level within the tank is exceeded, or even where the water elevation is higher than the tank wall. This indicates that there is an overflow event at that tank. The treatment system and the hydraulic shortcomings are identified below.

North Aeration Tanks

The North Aeration Tanks overflow the top of the tank walls (Hydraulic Profile Spreadsheet Line 392) when the tanks receive the appropriate portion of the Peak Influent Flow (PIF) of 10 MGD (Line 3367). This is due to the downstream pipe size restricting flow out of the tanks. If the existing 14" effluent pipe (Line 372) were increased to 18", the structure would not overflow, however it would not have the required 18" of freeboard at 10 MGD. At the lower flows in the hydraulic analysis, there is enough freeboard to meet the required 18".

The influent pipe to the North Aeration Tanks significantly restricts the flow capable of reaching this tank. At the proportioned flow during the PIF of 10 MGD, the influent pipe to the North Aeration Tanks back to the Influent Splitter Structure restricts the flow and creates significant headloss so that the wall of the Influent Splitter Structure is surcharged over 6 feet (Line 468). If the existing 8" pipe (Line 450) were increased to 12", the structure would not overflow, however it would not have the required 18" of freeboard at 10 MGD.

South Aeration Tanks

The South Aeration Tanks overflow the top of the tank walls (Line 583) when the plant receives the appropriate portion of the PIF of 10 MGD (Line 557) due to the downstream pipe size restricting flow out of the tanks. If the existing 18" effluent pipe (Line 516) and the 16" effluent pipe (Line 563) were increased to 30" and 24", respectively, the structure would have the water level at the top of the tank walls without overflowing. These pipes would need to be increased to an even larger diameter if more freeboard were desired. At lower flows in the hydraulic analysis, there is enough freeboard to meet the required 18" depth from the Standards.

The influent pipe to the South Aeration Tanks slightly restricts the flow capable of reaching this tank. At the proportioned flow during the PIF of 10 MGD, the influent pipe to the South Aeration Tanks back to the Influent Splitter Structure restricts the flow and creates headloss so that the wall of the Influent Splitter Structure does not have the required 18" of freeboard (Line 711). If the existing 16" pipe (Line 690) would have to be significantly increased to meet the required 18" of freeboard at the PIF.

Package Plant

The Package Plant does not have the required 18" freeboard from the water level to the top of the tank wall under any flow scenario (Line 827). However, the Package Plant does not begin to over flow the tank walls until the flow portion of the PIF of 10 MGD (Line 718) is sent to this treatment train. The existing 16" effluent pipe (Line 808) could be increased to a 20" pipe to reduce the headloss through the pipe and would in return provide a water level at the top of the tank wall without overflowing. The pipe would need to be increased to an even larger diameter if more freeboard were desired.

The influent pipe to the Package Plant significantly restricts the flow capable of reaching this tank. At the proportioned flow during the PIF of 10 MGD, the influent pipe to the Package Plant back to the Influent Splitter Structure restricts the flow and creates significant headloss so that the wall of the Influent Splitter Structure is surcharged over 6 feet (Line 854). If the existing 12" influent pipe (Line 836) were increased to 24", the structure would not overflow, however it would not have the required 18" of freeboard at 10 MGD. The freeboard of 18" at the Influent Splitter Structure is exceeded at the proportioned flow starting during DMF events.

Influent Structures

The Package Plant provides the greatest restriction back to the Influent Splitter Structure. The surcharging from the Package Plant and North Aeration Tanks combined surcharges the Influent Splitter Structure at the PIF of 10 MGD over 5 feet (Line 900).

The Parshall Flume has an invert elevation of 723.81 (Line 926), since all weirs within the Influent Splitter Structure are above this elevation (Line 880), the Parshall Flume will be submerged at all flow rates into the plant. This reduces accuracy in flume readings at submergence above 60% and has an impact on influent hydraulics. The Parshall Flume structure overflows by over 6 ft. during the PIF events (Line 936).

Assuming a manually raked bar screen with 50% blockage, the bar screen structure overflows by greater than 8 ft. during PIF events (Line 999). The bar screen structure has a higher water level than the structure at the downstream of the screen during PIF events (Line 971). This is due to the hydraulic restrictions in the system prior to the structure. Multiple downstream hydraulic modifications would be required to prevent the bar screen structure from overflowing.

The influent pipe in the influent manhole, the first structure within the treatment system, is identified as surcharging at the Storm Flow (SF) of 4.8 MGD and exceeds 12 ft. of surcharge at the PIF of 10 MGD (Line 1029). The influent manhole has a sanitary sewer overflow at the PIF of 10 MGD (Line 1032).

Existing Plant Hydraulic Profile – Package Plant Out of Service

The alternative attached Hydraulic Profile indicates the water level (WL) at each junction in the flow process for various flow rates when the Package Plant is out of service for maintenance. The flows to the plant would be the same as identified previously. It would be ideal to only take the Package Plant out of service during periods of low-flow, however if it is out of service during periods of wet weather flows, the North and South Aeration Tanks must be capable of hydraulically handling all flow to the plant.

Secondary Clarifiers

The Secondary Clarifiers for the North and South Aeration Tanks would become submerged and begin to overflow the top of the Secondary Clarifier Walls prior to reaching the 10 MGD PIF through the treatment process. At the influent of 10 MGD, the clarifier walls would be approximately 1'-4" underwater (Line 254) resulting in an overflow.

North Aeration Tanks

The North Aeration Tanks would be required to hydraulically pass 39% of the forward flow during the various flow events. At a forward flow + RAS of 4.35 MGD, the North Aeration Tank walls would be under the HWL by over 7 ft (Line 390). At the SF flow + RAS proportion to the North Aeration Tanks of 2.34 MGD, the North Aeration tanks would not be submerged, however the freeboard from the HWL to the top of the tank wall does not meet the required 18" identified in the 10 States Standards.

The water level down stream of the Influent Splitter Structure to the North Aeration Tanks begins to overflow at a forward flow of 1.38 MGD (Line 468). At a forward flow to the North Aeration Tanks of 3.89 MGD, the pipe loss from the Influent Splitter Structure to the North Aeration Tanks is extreme and the head losses at this flow rate exceed 21 feet, producing a water level of over 35 ft above the Influent Splitter Structure walls.

South Aeration Tanks

The South Aeration Tanks would be required to hydraulically pass the remaining 61% of the forward flow including RAS flow. At a forward flow + RAS of 6.83 MGD between two tanks, the South Aeration Tank walls would be under the HWL by almost 8 ft (Line 581). At the SF flow + RAS proportion to the South Aeration Tanks of 3.66 MGD between two tanks, the South Aeration Tanks would not be submerged, however the freeboard from the HWL to the top of the tank wall does not meet the required 18" identified in the 10 States Standards. The water level down stream of the Influent

Splitter Structure to the South Aeration Tanks begins to overflow prior to reaching a forward flow of 6.09 MGD (Line 710). At 6.09 MGD, the water level in the South Aeration Tanks would be 10'-9" over the top of the tank walls.

Influent Structures

The Influent Splitter Structure begins to overflow the top of the structure walls prior to SF of 4.8 MGD (Line 900) when flow cannot be sent to the Package Plant. This is much earlier than when the Package Plant is on-line and the structure does not begin to surcharge until an influent of 10 MGD. At 4.8 MGD forward flow, the water level is calculated as 2.25 ft above the structure walls, and at 10 MGD, the water level is calculated at 33.28 ft above the structure walls. This is largely driven by the extreme headloss through the pipe from the Influent Splitter Structure to the North Aeration Tanks.

The extreme water levels continue to increase as the hydraulics continue upstream. At the Parshall Flume, the water level over tops the structure walls prior to reaching the SF of 4.8 MGD. At a forward flow of 4.8 MGD, the water is 1'-5" above the structure walls, and is over 33'-8" at 10 MGD (Line 937).

Assuming the existing manually cleaned bar screens are left in use, at a 50% open area, the water level above the screen structure walls would be almost 2 ft at a forward flow of 48 MGD, and almost 36 ft at a forward flow of 10 MGD (Line 999).

The Influent Manhole would be completely surcharged at a forward flow of 4.8 MGD, and begin causing sanitary sewer overflows (Line 1032). The influent pipe in the manhole would be surcharged at a forward flow of 3.5 MGD (Line 1029).

Discussion

There were many discussions early on during the design process about the true influent peak flow. Generally, the peak flow considered was from the Commonwealth Facility Plan Report identifying a peak flow of 14 MGD from SWMM modeling. Assuming a 30% reduction in that peak through improvements to the collection system, the 14 MGD peak flow could be reduced to a peak flow of 10 MGD. This was calculated assuming the base flow of 0.6 MGD unable to be removed from the influent stream. Taking the difference of the 14 MGD and the 0.6 MGD base flow, reducing that calculated vale by 30% and then returning the base flow into the total influent flow to the plant(((14-0.6)*0.7)+0.6=10), the PIF of 10 MGD was the assumed calculated PIF for this evaluation. This calculation was completed for the originally proposed DMF of 4.8 MGD (reduced to 3.5 MGD) and SF of 6.6 MGD (reduced to 4.8 MGD).

This assumes a reduction of 30% in the very near future. This reduction would be achieved by sewer rehabilitation which may include lining manholes, replacing a significant number of laterals, sewer main lining, and increased home inspections. Based on experience of system lining and replacement, this reduction could take a period of time more than 5 to 10 years to achieve. The plant already sees

flows of 10 MGD or higher. If the DMF and SF values were not reduced by 30%, the frequency of tanks overflowing would increase.

The existing plant is hydraulically limited between tanks, the treatment processes, and at the Influent Splitter Structure. The current operations staff utilize portable pumps to prevent the extreme surcharging the Hydraulic Profile identifies at the Influent Splitter Structure and further upstream. This is only a temporary solution. The modifications required to provide full hydraulic capacity of the influent flow rates seen and anticipated at the plant would require new tanks and underground piping. These repairs would be significant and costly to address the current hydraulic condition. If an additional train were added to the existing treatment process, based on grade and current hydraulics, it is likely a pump station would be required.

Additional considerations should be made for the biological process discussed in a separate memo.

I:\Crystal Lake\UTILI\181255-Twin Lakes_ IN WWTP\42\06-Calcs-Sketches-Equip\Hydraulics\Tech Memo_Existing Hydraulic Profile.docx

COMMUNITY UTILITIES OF INDIANA, INC,

SUPPLEMENTAL RESPONSE TO THE OUCC

DATA REQUEST OUCC 09.02

Witness Responsible:	Loren Grosvenor
Title:	State Operations Manager
Date Received:	April 8, 2022
Docket No.:	45651

OUCC 09.02

Has CUII considered altering or replacing the influent gravity sewers immediately upstream of the WWTP? If so, please provide a copy of the report, study, or analysis for the possible upstream sewer alternatives. For purposes of this data request, please exclude the information provided in Cause No. 45389 pertaining to the proposed lift station and force main projects.

OBJECTION:

Petitioner objects to the foregoing Data Request on the grounds that the instruction to exclude information provided in Cause No. 45389 is vague and ambiguous. Petitioner further objects to the foregoing Data Request on the grounds that it is undefined and unlimited in scope and potentially overly broad and unduly burdensome. Petitioner has reviewed records where such information would normally be maintained. Subject to and without waiving these objections, Petitioner provides the following response.

RESPONSE:

Yes. See attachments "OUCC 09.02 Figure 1 Surcharge Locations with New Pumps"; "OUCC 09.02 Figure 2. Alternate No. 1"; "OUCC 09.02 Figure 3. Alternate No. 2".

Attachment:

OUCC 09.02 Figure 1 Surcharge Locations with New Pumps.pdf
OUCC 09.02 Figure 2. Alternate No. 1.pdf
OUCC 09.02 Figure 3. Alternate No. 2.pdf

Date Response Provided: April 18, 2022

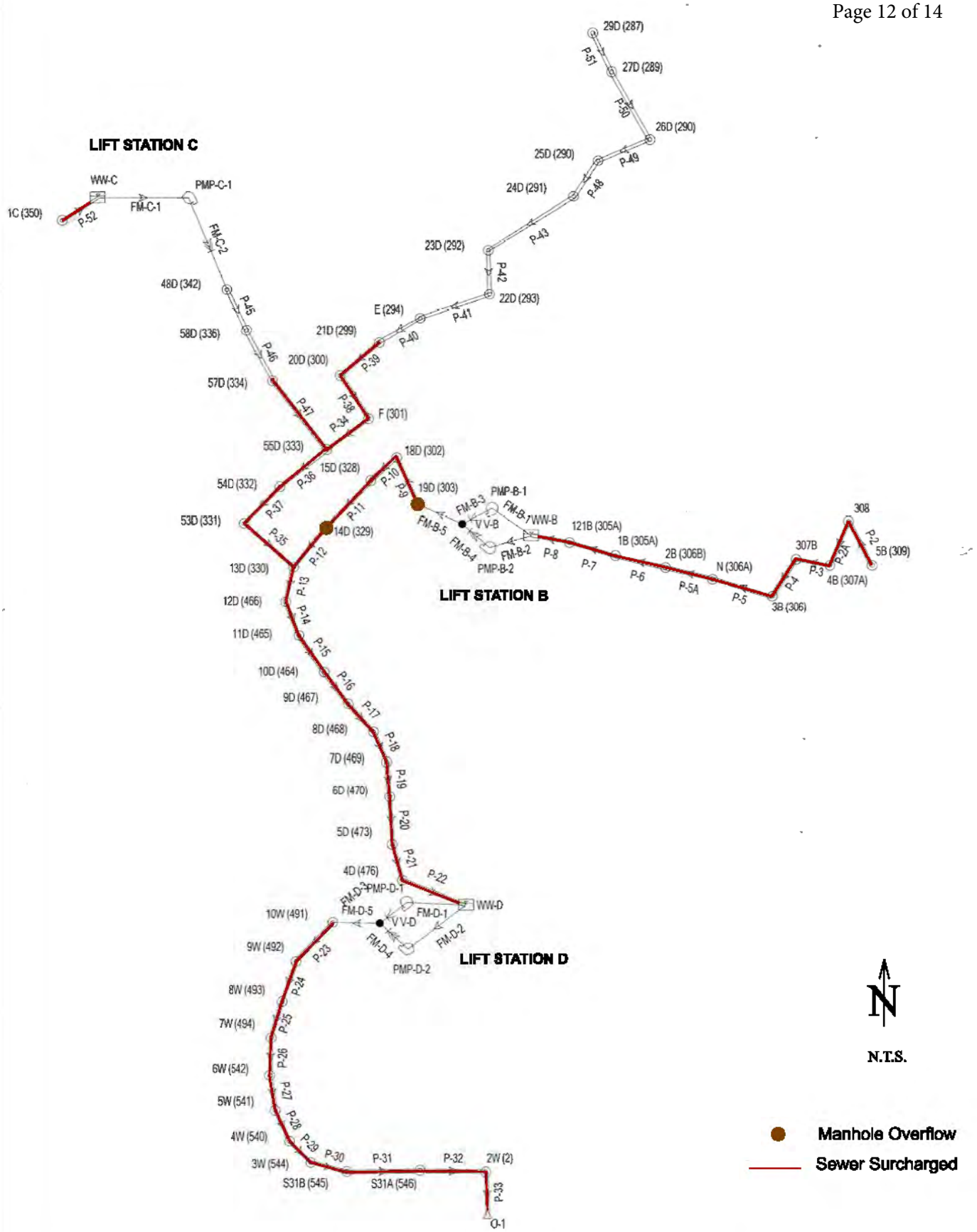
SUPPLEMENTAL RESPONSE:

The headworks project does not include a raw pump station. There is currently no grit removal due to the fact that CUII is repurposing the headworks plans from existing plans

with minor changes. The existing plans from the preapproval in IURC Cause No. 45389 have the ability to add grit removal in the future.

Attachment: N/A

Date Supplemental Response Provided: April 25, 2022



RHMG
REZEK, HENRY, MEISENHEIMER, AND GENDE, LTD.
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LIBERTYVILLE, ILLINOIS 60048
847-362-5959
535 TOLLWAY RD. SUITE F
ELGIN, ILLINOIS 60123
847-742-5959

FIGURE 1- SURCHARGE LOCATIONS WITH INSTALLATION OF NEW PUMPS

DATE: 09/13/07

PROJ#: 20801010

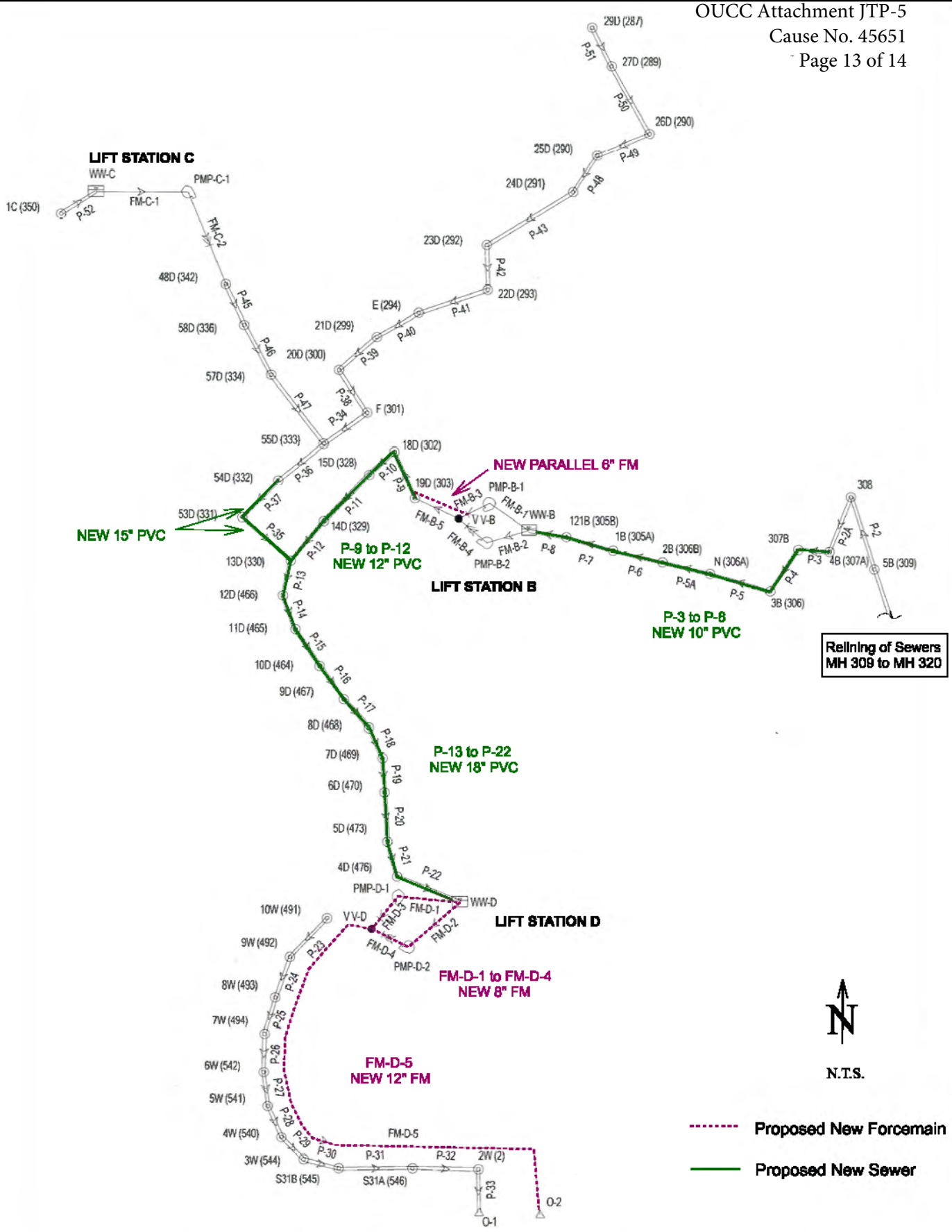

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FIGURE 2 - TWIN LAKES UTILITIES INC. ALTERNATE NO. 1

DATE: 09/13/07

PROJ#: 20801010

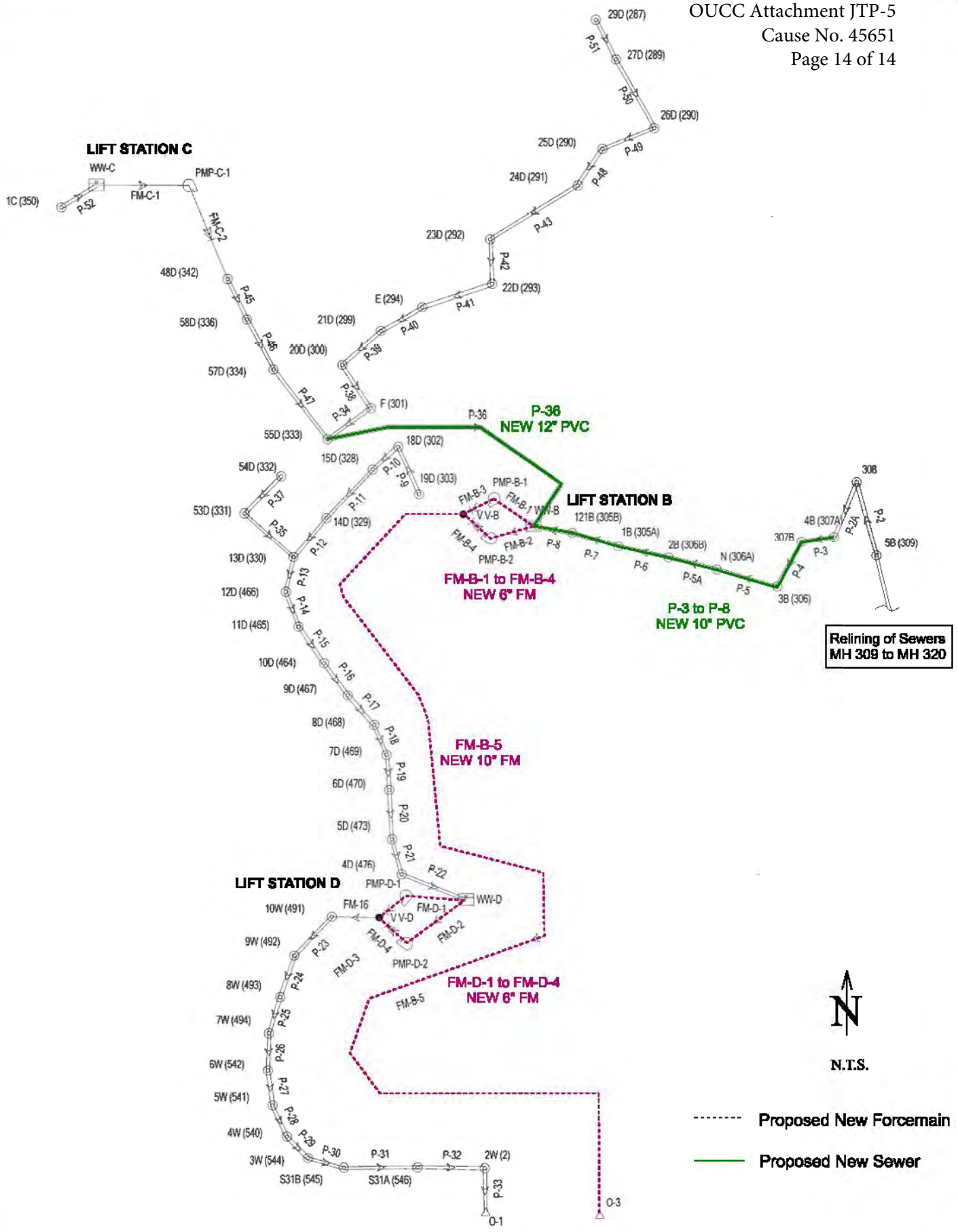

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FIGURE 3 - TWIN LAKES UTILITIES INC. ALTERNATE NO. 2

DATE: 09/13/07

PROJ#: 20801010

COMMUNITY UTILITIES OF INDIANA, INC,

RESPONSE TO THE OUCC

DATA REQUEST OUCC 05.60

Witness Responsible:	Loren Grosvenor
Title:	State Operations Manager
Date Received:	February 25, 2022
Docket No.:	45651

OUCC 05.60:

Please provide copies of the Construction Permit applications and the Construction Permits for Lift Station L, the 4.5-mile force main and all other lift stations / force mains connected to the Lift Station L force main.

OBJECTION:

Petitioner objects to the foregoing Data Request on the grounds that a construction permit for facilities installed more that twenty years ago is not relevant to the pending proceeding and not reasonably calculated to lead to the discovery of admissible evidence. Petitioner further objects to the foregoing Data Request on the grounds that it is overly broad and unduly burdensome. Subject to and without waiving the foregoing objection, Petitioner submits the following response.

RESPONSE:

See the document attached as "OUCC DR 5.60 Attachment_Jordan Ltr IDEM Lift Station L 4 15 2003."

Attachment:

OUCC DR 5.60 Attachment_Jordan Ltr IDEM Lift Station L 4 15 2003.pdf

Date Response Provided: March 7, 2022

Data Request OUCC DR 2 - 04

45389, CUII
08/25/2020

For Lift Stations B, C, D, and L, please provide the following:

a. Number of customers tributary to each lift station. Please identify if the customer is single-family residential, condominium, townhome, or commercial.
b. Hydraulic capacities of each lift station for design average, design maximum day, and design peak hourly flows as those terms are defined by Ten States Standards for the following:
   i. Original design
   ii. Current design
   iii. Proposed design (this Cause)

Objection:

CUII objects to the request on the grounds and to the extent the request seeks a compilation, analysis or study that CUII has not performed and to which CUII objects to performing. CUII further objects to the request on the grounds and to the extent it is overly broad and unduly burdensome, in that it seeks documents that are over 50 years old. Subject to and without waiver of the foregoing objection, CUII responds as follows.

Response:

a. The number and type of customers tributary to Lift Stations B, C, and D was provided in Attachment SC-20 with Mr. Carbonaro's Direct Testimony. The IDEM Construction Permit Application for Lift Station L from 2003 is provided as Attachment to OUCC DR 2-4a. The application indicates a total of 548 homes are tributary to Lift Station L. The Company is not proposing any work on Lift Station L as part of the Collection System Expansion – Phase 1 project.
b. The current capacities and proposed design capacities for Lift Stations B, C, and D were provided in Attachment SC-20 with Mr. Carbonaro's Direct Testimony. The Company upgraded the pumps at Lift Station D from 11.3 HP to 15 HP in 2015. The Company is unable to locate any records regarding the "original design" for Lift Station B, C, or D. The Company believes these lift stations were constructed with the early development of the Lakes of the Four Seasons during the late 1960s into the 1970s, and therefore if the documents existed they would be 50-60 years old. The Company is not aware of any other changes in capacity to Lift Station B, C, or D. Information regarding the current capacity of Lift Station L was provided in Attachment SC-11 with Mr. Carbonaro's Direct Testimony in Section 3 regarding Lift Station Condition Assessments. The IDEM Construction Permit Application for Lift Station L from 2003 is provided as Attachment to OUCC DR 2-4a and includes the design capacity. The Company is not aware of any change in the capacity of Lift Station L since its construction in 2003.

Rezek, Henry, Meisenheimer and Gende, Inc.

CONSULTING ENGINEERS

SENT VIA OVERNIGHT UPS

April 15, 2003

Ms. Sheri Jordan
Project Engineer
Facility Department Environmental Management
100 North Senate Avenue
Indianapolis, In 46206-6015

Re: Application for Construction Permit
Twin Lakes Utilities, Inc.
Happy Valley Road Lift Station, Forcemain and Gravity Sewer
IDEM Project No. SP-1087
RHMG Project No. 20001014

Dear Ms. Jordan:

We are in receipt of your correspondence of February 24, 2003 (copy attached), and our item-by-item response is as follows:

Administrative Evaluation

1. The sanitary sewer/forcemain that this project connects to is now existing and operational (tested).

1.A. A signed and dated "Capacity Certification/Allocation Letter" is enclosed reflecting the existing and operational (tested) nature of the downstream sanitary sewer/forcemain.

1.B. A signed and dated "Certificate of Registered Professional Engineer or Land Surveyor Letter" is enclosed reflecting the existing and operational (tested) nature of the downstream sanitary sewer/forcemain.

1.C. The Design Summary has been revised to state that any sanitary sewer being connected to is existing.

1.D. The plans have been revised to show all sanitary sewers being connected to are existing.

Technical Review

1. Per your request, the cover sheet has been revised to include the wording "For Construction". These are the plans that will be used for construction.

2. The 12 and 14-inch diameter forcemain previously listed on the Design Summary have been completed and are now existing and operational (tested). The Design Summary Form has been revised to reflect the

correct lengths, pipe materials and status (proposed or existing). To clarify the location of the various pipe lengths, attached is a "Pipe Location Summary Sheet".

3. The Design Summary has been revised to reflect the correct lengths and pipe materials.

4. & 5. Regarding the horizontal directional drilled 12-inch HDPE DR-11 pipe between Station 1+30 to 66+90 (Sheets 6 to 11), we hereby request an Alternative to the Technical Standards under the provisions of Indiana Administrative Code 327 IAC 3-6-32.

Specific to Item 4 - The "Pipe Installation by Horizontal Directional Drilling Method" Specification (Sheet 2) has been revised to include the following: ASTM F714, Polyethylene Pressure Pipe, DR-11 wall thickness made from MPa11 polyethylene resin compound having a standard pressure rating of 160 psi. Based on our experience and published literature, this piping system provides at least the same level of protection that the technical standards of this rule would provide and meets all the issuance requirements of Section 7.. It is our understanding that this pipe material is currently an approved Technical Standard Alternative.

Specific to Item 5 - Since this forcemain will be installed predominately along a golf course, we have been directed to keep disruptions of the ground surface to a minimum. We believe the best way to achieve that goal is to install the forcemain via the Horizontal Directional Drilled method. It is our understanding that this installation method may be allowed when used in conjuncture with the above noted HDPE pipe.

The 16-inch gravity sewer (Item 4) was incorrectly noted as HDPE DR-11 AWWA C-906. The Design Summary sheet has been revised to include the correct designation of PVC DR-18 AWWA C-905.

Regarding the 14-inch HDPE forcemain listed in the Design Summary sheet (Item 4), it was completed as part of IDEM Permit Approval No. 13962. The design summary has been revised to reflect the pipe material as installed which conforms to the approved Technical Standard Alternative Specification noted above.

6. Per your request, leakage and deflection testing requirements have been added to the specifications for the gravity sanitary sewer and forcemain (see Sheet 2, Underground Utilities, Items A.21 and B.29). Additionally, air testing of manholes has also been added to the specifications (Sheet 2, Item A.21).

7. Notes regarding vertical and horizontal separation distances have been added to the plans (see Sheet 2). Instruction detailing what should be done in the event these separations cannot be maintained are included with this note. In addition to the above, the existing watermains were excavated to verify their elevation (which are shown in profile) to facilitate the design of the forcemain/gravity sewer. The elevation of these watermains are noted on the plans at or near the proposed crossings. The specific location of these crossings are noted in Item 14.

8. To show how this project interacts with the two previously approved projects (IDEM Permit Approval Nos. 10932 and 13962), we have enclosed an overall layout titled "General Plan of Proposed Forcemain System". As shown on Sheet 11 of this project, the proposed 12-inch HDPE forcemain connects to the existing 8-inch PVC forcemain (IDEM Permit Approval No. 10932) at Kingsway Drive. Flow continues westerly to Randolph Street where connection is made to the existing 12-inch PVC forcemain. Flow then continues to the south along Randolph Street to 117th Avenue where connection is made to the existing 12-inch PVC forcemain (IDEM Permit Approval No. 13962). Flow is then directed via this forcemain to the Twin Lakes Utilities WWTP.

   Regarding IDEM Permit Approval No. 13962, this originally included three projects that were "packaged" as one submittal. They included the following:

   - Randolph Street/123rd Avenue Forcemain (plans prepared by RHMG Engineers).
   - Four Winds Lift Station and Forcemain (plans prepared by RHMG Engineers).
   - Four Winds L.L.C. Development (plans prepared by Plumb Tuckett and Associates).

Following the submittal and approval of Permit No. 13962, the developer responsible for part of this project apparently went bankrupt. Therefore, the second two of the above three projects were not constructed. This includes the Four Winds Lift Station and the segment of 12-inch forcemain between Stations 12+65 and 23+91. This forcemain segment is replaced by the current proposed submittal (see Sheet 13 for revised layout). The pipe lengths noted in the "Sanitary Sewer Design Summary Form" have been revised to reflect the above noted change. The function of the Four Winds Lift Station is now being served by the proposed Happy Valley Road Lift Station which provides a greater benefit to the existing residents.

Regarding your concerns relative to existing sanitary sewers and watermains, we have enclosed utility maps for these systems. The alignment of the proposed gravity sewer/forcemain has been added to these utility maps, as well as the forcemains constructed as part of Permit Nos. 10932 and 13962.

9. The TDH calculations for the Happy Valley Road Pump Station did include the short length of the existing 8-inch PVC forcemain (from the Seasons Pointe lift station), which will be reused as part of this project. Please refer to the "General Plan of Proposed Forcemain System" for the project prepared in response to Item No. 8. We have attached an additional copy of the calculations provided with the prior IDEM submittal and have highlighted both the inclusion of the 8-inch forcemain and the proposed rating point of 700 gpm at approximately 150-ft. TDH. Some confusion may have resulted from the fact that the design calculations show the Happy Valley Road Lift Station operating in conjunction with two other lift stations (the 300 gpm Seasons Pointe lift station and a future 300 gpm lift station). This is the most critical operating condition for the Happy Valley Road Lift Station (i.e., when operating alone at 700 gpm a lower TDH will be incurred.) We trust that with the submission of the above noted plan, the calculations will clearly show the documentation you have requested.

10. In Item No. 10 of your review letter, the discharge of the Happy Valley Road lift station to an existing 8-inch gravity line was questioned. The "General Plan of Proposed Forcemain System" provided in response to Item No. 8 should resolve your questions regarding this issue. Please note on this plan that the Happy Valley Road Lift Station does not discharge to

an 8-inch sewer (the existing forcemain connection to existing sanitary manhole No. 422 is now noted as abandoned). The forcemain from the Happy Valley Road Lift Station is a total of approximately 18,220-ft. in length and discharges to a short section of 16-inch PVC diameter gravity main which carries flow only from this forcemain.

The forcemain from the Happy Valley Road Lift Station proceeds west through the golf course (12-inch HDPE forcemain), then utilizes a short portion of the existing 8-inch PVC forcemain from the Seasons Pointe Lift Station, then continues south along Randolph Street and east along 123rd Avenue in a 12-inch PVC forcemain. This forcemain then discharges into a 16-inch PVC sewer prior to connecting to the wastewater treatment plant.

11. The average daily flow for the sewer was based upon flow monitoring at the wastewater treatment plant. An average daily flow of 127 gpcd was used. The correct number of homes served by the Happy Valley Road Lift Station is 548 homes (not 584 homes as typed incorrectly on the permit). The average daily flow was determined as follows: 548 homes x 3.1 P.E. per home x 127 gpcd = 215,800 gpd. A corrected design summary form is attached.

12. The 10-inch sanitary sewer receives pumped flows from Lift Station A. Lift Station A has 178 homes tributary to the station (552 P.E.). Although construction of a new 8-inch sewer would be adequate for existing connections if peak flows based upon IDEM design parameters were used, significant infiltration and inflow may occur in this sub-area as evidenced by previous surcharging of manholes on the golf course. The use of a 10-inch sewer in this area was proposed as an added factor of safety against surcharging given 1) unanswered questions regarding the quantity of infiltration and inflow in areas tributary to Pump Station A, 2) the difficulty of constructing the sewer between existing residences, and 3) the limited accessibility on the golf course. Additionally, there is the potential for future connection(s) from new development(s) adjacent to the existing residential area.

With regard to the design flow summary as shown on the Sanitary Sewer Design Summary Form, the peak flow of 971,000 gpd shown includes only flows tributary to the Happy Valley Road Lift Station. However, the design calculations for the Happy Valley Road Lift Station pumps and the

forcemain have taken into consideration an additional flow contribution to the forcemain of 300 gpm [432,000 gpd peak flow] from the Seasons Pointe Lift Station (re-routed from the 8" forcemain to Randolph Street) and an additional 300 gpm [432,000 gpd peak flow] for a future lift station. Both of these lift stations will connect to the forcemain along Randolph Street downstream of the Happy Valley Road Lift Station. The TDH calculations incorporated these additional flows at their point of connection to the 12-inch forcemain on Randolph Street. Please refer to the "General Plan of Proposed Forcemain System" provided as part of Item No. 8.

13. The 18-feet of 16-inch PVC DR-18 AWWA C905 gravity sewer was constructed as part of IDEM Permit Approval No. 13962 and is located on Sheet 6 of 7 of those plans at the WWTP site.

14. All properties within the Twin Lakes Development (as shown on Sheets 4 through 11) receive their drinking water from Twin Lakes Utilities, Inc. water distribution system. This system is shown wherever the proposed forcemain crosses below the watermain. The existing watermains were excavated to verify their elevation (which are shown in profile) to facilitate the design of the forcemain/gravity sewer. Watermain crossings occur at the following locations:

Sheet No.	Street Name	Stationing at Crossing	Separation
4	Brandywine Road	2+11	>18"
5	Happy Valley Road	20+95	>18"
7	North Lake Shore Drive	22+92	>18"
9	Kingsway Drive	38+68	>18"
10	Augusta Drive	55+51	>18"

The proposed forcemain fronts a proposed school (Crown Point Elementary School No. 7) on Sheet 12. The proposed forcemain is located no closer than 175-feet to the water distribution system being constructed as part of the school site.

Finally, there is no water system to be shown on Sheet 13 as the property is currently vacant (see Item 8 for further comments on this property). All existing watermains in the project area are now shown on the plans.

15. The flow arrows of the existing 8-inch forcemain have been revised.

Along with the above noted items, we are enclosing two revised sets of signed and sealed Plans and Specifications dated April 14, 2003.

Please review the above material at your earliest convenience. If you have any questions or require any additional information, please contact me or Marcia McCutchan at our Libertyville office.

REZEK, HENRY, MEISENHEIMER AND GENDE, INC.

William R. Rickert, P.E., DEE
President

WRR/amd

Enclosures

cc: Mr. Harry Zimmer - Utilities, Inc.
Mr. Darin Yount - Twin Lakes Utilities, Inc.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We make Indiana a cleaner, healthier place to live

Frank O'Bannon
Governor

Lori F. Kaplan
Commissioner

100 North Senate Avenue
P.O. Box 6015
Indianapolis, Indiana 46206-6015
(317) 232-8603
(800) 451-6027
www.state.in.us/idem

February 24, 2003

RHMG, INC.

FEB 2 7 2003

RECEIVED

Mr. Darrin Yount
2335 Sanders Road
Northbrook, Illinois 60062

Dear Mr. Yount:

Re: Deficiency Notice for
Construction Permit Application
Happy Valley Road Lift Station,
Force Main and Sanitary Sewer
Winfield, Indiana
Lake County
Porter, Indiana
Porter County
Project No. SP-1087

This will acknowledge the receipt of plans and specifications on January 21, 2003 in connection with your application for a Construction Permit, pursuant to IC 13-15 et. seq., and 327 IAC Article 3 et. seq., on the above-referenced project.

Your application has been found to be deficient. The following administrative and technical items are required to complete your application for a Construction Permit. Please be advised that if all the deficiency items are not corrected or resolved within sixty (60) days of the date of this letter, your application will be denied on the basis of incompleteness.

I. ADMINISTRATIVE EVALUATION

Upon review of your application, the following administrative deficiencies are noted:

1. The sanitary sewer that will be connected to needs to be existing and operational (tested) before we can process for a construction permit for this sanitary sewer. For us to continue the process of this permit we will need:

   A. The Capacity Certification/Allocation Letter needs to be resigned and dated again after the sewer to be connected to is existing and operational (tested).

B. The Certification of Registered Professional Engineer or Land Surveyor Letter needs to be resigned and dated again after the sewer to be connected to is existing and operational (tested).

C. The Design Summary revised to say that all the sanitary sewer to be connected to are existing.

D. The plans revised to show that all the sanitary sewer to be connected to are existing.

If you have any questions concerning the administrative accuracy of this application, please contact Mr. Don Worley at 317/232-5579, or Fax 317/232-8637.

II. TECHNICAL REVIEW

This office has completed review of the submitted project and offers the following technical comment(s):

1. Item number 2 of the General Specifications on plan page 2 of 17 states that "no construction plans shall be used for construction unless specifically marked "for construction". The plans received for review are not marked "for construction". It is required that the plans submitted for permit review be the plans that you intend to use for construction. Therefore, please submit the actual "for construction" plans for review. If the plans we have are the proper plans that you intend to use, then please revise the specifications so that this restriction is not included.

2. The Design Summary lists 12 and 14 inch diameter force mains under the lift station section that are identified as "under construction". Please explain. What is the current status of this construction?

3. Two different materials are being proposed for the two different 12-inch force mains. However, only one is specified on the Design Summary. It is required that both materials, and the footages being proposed for each, be called out individually on the Design Summary. Please revise.

4. Related to question number 5 is that HDPE DR-11 AWWA C-906 is not an approvable material under 327 IAC 3-6-8. This is also the piping that is proposed for the short 16-inch diameter segment of gravity sewer. In order for our office to consider allowing the use of this material you will need to apply for a Technical Standard Alternate, in accordance with 327 IAC 3-6-32. Otherwise, please revise the application materials so that an approved material is specified for the force main and the gravity sewer. In

addition, the 14-inch diameter force main that the Design Summary lists as being under construction is the same material. Please confirm the IDEM permit number that this force main was built, or is being built, under.

5. A majority of the force main being proposed for this project is to be installed via horizontal directional drilling. This is not currently an approved method of installation as per 327 IAC 3. Therefore you will need to request a Technical Standard Alternate, as per 327 IAC 3-6-32, for the use of this installation procedure.

6. Leakage and deflection testing are required on all plastic piping, as per 327 IAC 3-6-19. Please revise the plans so that instructions for this testing, including the applicable ASTM or AWWA reference, is included for each material proposed. Also, air testing in accordance with ASTM C1244-93 is required on the proposed manholes. Please add this requirement to the plans.

7. Please add to the plans what vertical and horizontal separation distances should be maintained between the proposed gravity sewer and the existing and proposed water mains in the area. Also add instructions detailing what should be done in the event that these separations cannot be maintained.

8. In addition to the plans for the proposed project, plans were submitted for projects previously approved under IDEM permit numbers 13962 and 10932. The three sets of plans appear to be incomplete, in that all structures that were applied for in the permits are not shown, and what is there is confusing in regards to the locations of the existing and proposed sanitary structures, how they all fit together, how flow is being rerouted, and what flow is being carried in which collection system subsystem. For example, none of the plans submitted shows the locations of the two lift stations that were approved under permits 13962 and 10932. Also, it appears that part of the force main that was approved under permit number 13962 is being re-applied for as a part of the current project. Since the lift station that was approved under 13962 was to connect at the missing end of the force main, it seems that either that lift station was never built, or was constructed somewhere else other than what was approved. Furthermore, no site plan was received that shows the complete project area, or for that matter, no site plan was included with any of the three sets of plans to show even that project's particular details. The site plan should include the locations and sizes of all existing and proposed sanitary sewer structures, the locations where proposed structures will be connecting to the existing structures, and the locations of all proposed and existing water mains and drinking water wells. Street names should also be identified.

Especially in the case of a project as complex as this one, a full site plan is needed. Please submit one.

9. Plan page 12 of 17 shows one of the proposed 12-inch diameter force mains connecting to an existing 8-inch diameter force main. Our office discourages the connection of a larger size force main to a smaller force main, unless the length of smaller force main is minimal, and then only if it is demonstrated that the TDH on the force main system is not a problem. However, none of the calculations received with this project involved 700 gpm pumps, which is what is being proposed for the new lift station that will be feeding the force mains. Please provide your TDH system calculations for this combination of force mains.

10. In regards to the connection point discussed in item number 9, the 8-inch diameter force main then discharges to an existing 8-inch diameter gravity sanitary sewer. A letter dated January 15, 2003, from William Rickert, PE, states that the flow currently feeding the existing 8-inch force main will be re-routed to the 12-inch force main along Randolph Street, and therefore will no longer be carried by this gravity sewer. However, the pumps you are proposing to use in the new lift station are 700 gpm. At 700 gpm the existing 8-inch gravity line will be seeing flows in excess of 1 million gpd from this source alone, in addition to the existing flow that it already receives from sources other than the 8-inch force main. Please explain how you determined that it has the capacity to carry these high flows.

11. The flow values on the Design Summary appear to be incorrect. You state 584 homes will be served, for a total of 215,800 gallons per day average flow. But at 310 gpd per home, the total average daily flow would be 181,040 gpd. Was this flow value obtained through flow monitoring, since this is existing flow? Please explain. If the value is based on calculation, then the average and peak flow values need to be changed and a revised Design Summary submitted.

12. Related to the Design Summary flows, there is no breakdown included with the application materials that explains how much of this flow will be carried through the subsystem that begins with the proposed 10-inch diameter gravity sanitary sewers. Please submit a flow breakdown that clarifies this. Be advised that in order to justify the use of 10-inch diameter piping the portion of the peak flows expected to be carried by this section of the project must be in excess of the carrying capacity of 8-inch piping. Also include in your breakdown whether the 422,840 gallons of peak flow to be rerouted from the 8-inch force main to the Randolph Street force main is included in the 971,000 gpd total, or in addition to it.

13. The Design Summary states that the project is to include an 18-foot segment of 16-inch diameter sewer. However, I was unable to find this segment on the plans. Please clarify where it is shown in plan and in profile. If it was left off of the plans, please submit revised plans that include plan and profile drawings of this segment.

14. It is required that all existing and proposed water mains and drinking water wells in the project area be shown on the plan pages, both plan and profile view drawings. Currently about half of the plan pages do not show water mains or wells; and the few short segments shown on plan pages 4, 5, 6, and 9 of 17 seem to be incomplete, as they start and stop out of nowhere. It is clear that there are more water mains in the area that are not shown. Please revise the plan pages so that all proposed and existing water mains and wells are shown.

15. Please clarify if the arrows drawn into the lines representing force mains and gravity sanitary sewers on the plans are meant to represent direction of flow travel. If so, it appears that there is either a connecting structure missing on plan page 12 of 17, or the arrows are wrong in a section of the proposed 12-inch diameter force main, as there is a section where flow is shown going one direction as indicated by the arrows, and then reversing direction. Please check this and clarify what is going on.

If you have any questions regarding the technical matters of your application, please contact me at 317/232-8743.

Sincerely,

Sheri L. Jordan
Project Engineer
Facility Construction Section
Office of Water Quality

SLJ/tig
cc: Mr. William Rickert, Rezek, Henry, Meisenheimer and Gende, Inc.

CAPACITY CERTIFICATION/ALLOCATION LETTER
(This Form Should be Filled Out in its Entirety)

Applicant: Twin Lakes Utilities, Inc.

Owner: Twin Lakes Utilities, Inc.

Project Name: Happy Valley Road Lift Station, Forcemain, and Sanitary Sewer

I, Darrin Yount, representing the Twin Lakes Utilities, Inc., in my capacity as Regional Manager have the authority to act on behalf of the Utilities, Inc. and certify that I have reviewed and understand the requirements of 327 IAC 3 and that the sanitary collection system proposed, with the submission of this application, plans and specifications, meets all requirements of 327 IAC 3. I certify that the daily flow generated in the area that will be collected by the project system will not cause overflowing or bypassing in the collection system other than NPDES authorized discharge points and that there is sufficient capacity in the receiving water pollution treatment/control facility to treat the additional daily flow and remain in compliance with applicable NPDES permit effluent limitations. I certify that the proposed average flow will not result in hydraulic or organic overload. I certify that the proposed collection system does not include new combined sewers or a combined sewer extension to existing combined sewers. I certify that the ability for this collection system to comply with 327 IAC 3 is not contingent on water pollution/control facility construction that has not been completed and put into operation. I certify that the project meets all local rules or laws, regulations and ordinances. The information submitted is true, accurate, and complete, to the best of my knowledge and belief. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Gallons Per Day: 215,800 (existing tributary to Happy Valley Road Lift Station. No new connections proposed at this time).

(Total Average Flow for Project)

Wastewater Treatment Plant Twin Lakes Utilities, Inc. Wastewater Treatment Plant

(Name of WWTP)

Sewers: Twin Lakes Utilities, Inc.

(Owner of Sewers)

Darrin Yount – Regional Mgr.

Signature of Person Signing

4/10/03

Date Signed

(Please refer to IC 13-30-6-2 for penalties of submission of false information. False certification could result in imprisonment or a fine of up to $10,000)

CERTIFICATION OF REGISTERED PROFESSIONAL ENGINEER OR LAND SURVEYOR LETTER
(This Form Should be Filled Out in its Entirety)

Applicant: Twin Lakes Utilities, Inc.

Owner: Twin Lakes Utilities, Inc.

Project Name: Happy Valley Road Lift Station, Forcemain, and Sanitary Sewer

I, William R. Rickert, representing the project applicant, in my capacity as a registered professional Engineer, (PE60860443) have the authority to certify under penalty of law that this project will be performed under my direction or supervision to assure conformance with 327 IAC 3 and the plans and specifications require the construction of said project to be performed in conformance with 327 IAC 3-6. The daily design flow rates, in accordance with 327 IAC 3-6-11 generated from within the specific area that will be collected by the proposed collection system that is the subject of the application, plans, and specifications (when functioning as designed and properly installed), will not cause overflowing or bypassing in the same specific area serviced by the proposed collection system other than from NPDES authorized discharge points. The proposed collection system does not include new combined sewers (serving new areas) or a combined sewer extension to existing combined sewers. The sewer at the point of connection is physically in existence and operational. Based upon information provided by the Owner of the Wastewater System, the ability for this collection system to comply with 327 IAC 3 is not contingent on downstream water pollution/control facility construction that has not been completed and put into operation. The design of the proposed project meets applicable local rules or laws, regulations and ordinances. The information submitted is true, accurate, and complete, to the best of my knowledge and belief. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Gallons Per Day: 215,800 (existing tributary to Happy Valley Road Lift Station. No new connections proposed at this time).
(Daily Design Average Flow for Project)

Wastewater Treatment Plant: Twin Lakes Utilities, Inc. Wastewater Treatment Plant
(Name of WWTP)

Sewers: Twin Lakes Utilities, Inc.
(Owner of Sewers)

Signature of Person Signing

4/15/03

Date Signed

(Please refer to IC 13-30-6-2 for penalties of submission of false information. False certification could result in imprisonment or a fine of up to $10,000)

327 IAC ARTICLE 3 CONSTRUCTION PERMIT
SANITARY SEWER DESIGN SUMMARY FORM

Design Flow

Number of Units (Existing tributary to Happy Valley Road Lift Station: No new connections proposed at this time.)

_____	1Bdrm. apts	200 gpd/unit	_____ gpd
_____	2Bdrm. apts	300 gpd/unit	_____ gpd
548	Single family homes	310 gpd/unit	215,800 gpd
_____	Commercial lots		
_____	_____	_____	_____ gpd
_____	_____	_____	_____ gpd

Total average flow 215,800 gpd

Peaking factor 4.5 Peak flow 971,000 gpd

Sewer

_____	ft.	8-inch _____ (sewer type)
2,260	ft.	10-inch PVC SDR-26 ASTM D-3034 Proposed
18	ft.	16-inch PVC DR-18 AWWA C905 Existing
_____	ft.	
2,278	ft.	Total length of sewer

The new sewer will be connected to new lift station on Happy Valley Road approximately 550 feet north of Deer Valley Road

4/15/23

WILLIAM R. RICKERT REGISTERED PE60860443 STATE OF INDIANA PROFESSIONAL ENGINEER

My Comm. Expires 7-31-23

Engineer's Stamp (Signature and Date)

Lift Station

Type submersible (wet/dry well, submersible, wet-well mounted, etc.)
Number of pumps 2
Capacity of pumps 700 gpm, 150 TDH, 1,150 RPM, 75 HP
Back-up power source X **yes** _____ **no**
Average wet-well detention time 30 Minutes
Audio/visual alarm with self-contained power supply or telemetry system

Force main 6,560	ft. of 12	-inch	HDPE DR-11 ASTM F714 DIPS	(type) Proposed
2,391	ft. of 12	-inch	PVC DR-18 AWWA C900	(type) Proposed
32	ft. of 8	-inch	PVC DR-18 AWWA C900	(type) Proposed
1,048	ft. of 8	-inch	PVC SDR-21 ASTM D2241	(type) Existing
7,061	ft. of 12	-inch	PVC DR-18 AWWA C900	(type) Existing
1,160	ft. of 14	-inch	HDPE DR-11 ASTM F714 (IPS)	(type) Existing

Force main discharge elevation centerline 775 (highpoint); invert 726.00 (existing 12-inch forcemain discharge at wastewater treatment plant).

Waste Treatment

Wastewater treatment will be provided by Twin Lakes Utilities, Inc.

Inspection/Maintenance

Inspection during construction will be provided by Twin Lakes Utilities, Inc.
Maintenance after completion will be provided by Twin Lakes Utilities, Inc.

PIPE LOCATION SUMMARY SHEET

(FROM GRAVITY SEWER CONNECTION THROUGH HAPPY VALLEY LIFT STATION TO POINT OF DISCHARGE AT WASTEWATER TREATMENT PLANT)

PROJECT NO. 20001016 **April 14, 2003**

Pipe Size	Pipe I.D.	Pipe Specification	Pipe Type	Total Length	Stationing	Sheet No.	Pipe Status	Project Status
10"	N/A	PVC SDR-26 ASTM D3034	Gravity Sewer	2,260-feet	N/A	4 & 5	Proposed	**PART OF CURRENT IDEM SUBMITTAL**
12"	10.66"	HDPE DR-11 (DIPS) ASTM F714	Forcemain	6,560-feet	1+30 to 66 + 90	6 to 11	Proposed	
8"	7.81"	PVC DR-21 ATM D2241	Forcemain	1,048-feet	N/A	2 & 3	Existing	CONSTRUCTED AS PART OF IDEM PERMIT APPROVAL NO. 10932
12"	11.73"	PVC DR-18 AWWA C900	Forcemain	2,391-feet	0+00 to 23+91	12 & 13	Proposed	**PART OF CURRENT IDEM SUBMITTAL**
8"	8.05"	PVC DR-18 AWWA C900	Forcemain	20-feet	0+29	12	Proposed	
8"	8.05"	PVC DR-18 AWWA C900	Forcemain	12-feet	12+98	13	Proposed	
12"	11.73"	PVC DR-18 AWWA C900	Forcemain	6,986-feet	23+91 to 64+07+/- 0+40+/- to 30+10	3 to 6	Existing	CONSTRUCTED AS PART OF IDEM PERMIT APPROVAL NO. 13962
14"	11.30"	HDPE DR-11 (IPS) ASTM F714	Forcemain	1,160-feet	30+10 to 41+70	6	Existing	
12"	11.73"	PVC DR-18 AWWA C900	Forcemain	75-feet	41+70 to 42+45	6	Existing	
16"	15.50"	PVC DR-18 AWWA C905	Gravity Sewer	18-feet	N/A	6	Existing	

MD/WP/MISC./20001016PipeLocationSummarySheet

Series 5
TWIN LAKES UTILITIES, INC.
HAPPY VALLEY ROAD LIFT STATION
ASSUMING TWO 300 GPM LIFT STATIONS DOWNSTREAM PUMPING TO 12 INCH FORCEMAIN
USING HIGHEST ELEVATION, FULL FORCEMAIN LENGTH, C=120 AND LOW WATER LEVEL

FORCEMAIN ALONG RANDOLPH STREET AND 123 RD AVENUE

USING:	*Happy Valley + 300 gpm for Seasons Pointe plus 300 gpm for future lift station*	GPM	600	800	1,000	1,200	1,300	1,400	1,600	1,800	2,000
		MGD	0.86	1.15	1.44	1.73	1.87	2.02	2.30	2.59	2.88
		CFS	1.34	1.78	2.23	2.68	2.90	3.12	3.57	4.01	4.46
DIAMETER =	11.73 INCHES	V =	1.78	2.38	2.97	3.56	3.86	4.16	4.75	5.34	5.94

HAPPY VALLEY 700
SEASONS POINTE 300
FUTURE 300
1300 GPM

FITTINGS:

ITEM	K	NUMBER	TOTAL K
22 1/2 DEG ELBOW	0.25	6.00	1.50
45 DEG ELBOW	0.25	4.00	1.00
90 DEG. ELBOW	0.50	1.00	0.50
OUTLET	1.00	1.00	1.00

TOTAL K =	4.00	Hf =	0.20	0.35	0.55	0.79	0.93	1.07	1.40	1.77	2.19
PIPE LENGTH = 10,598 FEET		Hp =	13.63	23.20	35.06	49.12	56.96	65.33	83.63	104.00	126.38
		Hf + Hp =	13.82	23.55	35.60	49.91	57.88	66.40	85.04	105.77	128.57

STATIC HEAD

HIGHEST ELEVATION = 775 FEET
ASSUMED WET WELL ELEV. = 724.5 FEET LWL
STATIC HEAD = 50.5 FEET

TOTAL DYNAMIC HEAD

STATIC HEAD =	50.50	50.50	50.50	50.50	50.50	50.50	50.50	50.50	50.50
FRICTION HEAD =	13.82	27.39	49.66	79.98	98.05	118.01	163.49	216.27	276.18
TOTAL HEAD (FEET) =	64.32	77.89	100.16	130.48	148.55	168.51	213.99	266.77	326.68
FLOW (GPM) =	0	200	400	600	700	800	1,000	1,200	1,400

SEE ITEM 9 OF RHMG's 4/15/03 CORRESPONDENCE

USE 700 GPM @ APPROX. 150 FT TDH FOR HAPPY VALLEY RD LIFT STATION

Series 5
TWIN LAKES UTILITIES, INC.
HAPPY VALLEY ROAD LIFT STATION
ASSUMING TWO 300 GPM LIFT STATIONS DOWNSTREAM PUMPING TO 12 INCH FORCEMAIN
USING HIGHEST ELEVATION, FULL FORCEMAIN LENGTH, C=120 AND LOW WATER LEVEL

12" FORCEMAIN THROUGH GOLF COURSE (10.656" I.D.)

USING:				GPM	0	200	400	600	700	800	1,000	1,200	1,400
				MGD	0.00	0.29	0.58	0.86	1.01	1.15	1.44	1.73	2.02
				CFS	0.00	0.45	0.89	1.34	1.56	1.78	2.23	2.68	3.12
DIAMETER =	10.656	INCHES		V =	0.00	0.59	1.19	1.78	2.08	2.38	2.97	3.56	4.16

FITTINGS:

ITEM	K	NUMBER	TOTAL K
45 DEG. ELBOWS	0.25	10.00	2.50
90 DEG. ELBOWS	0.50	5.00	2.50
		TOTAL K =	5.00

Hf =	0.00	0.03	0.11	0.25	0.34	0.44	0.68	0.99	1.34
PIPE LENGTH = 6,585 FEET	Hp =	0.00	1.77	6.38	13.51	17.97	23.00	34.75	48.70	64.76
	Hf + Hp =	0.00	1.80	6.49	13.75	18.30	23.44	35.44	49.68	66.11

8" FORCEMAIN THROUGH GOLF COURSE

USING:				GPM	0	200	400	600	700	800	1,000	1,200	1,400
				MGD	0.00	0.29	0.58	0.86	1.01	1.15	1.44	1.73	2.02
				CFS	0.00	0.45	0.89	1.34	1.56	1.78	2.23	2.68	3.12
DIAMETER =	7.805	INCHES		V =	0.00	0.59	1.19	1.78	2.08	2.38	2.97	3.56	4.16

FITTINGS:

ITEM	K	NUMBER	TOTAL K
45 DEG. ELBOWS	0.25	10.00	2.50
90 DEG. ELBOWS	0.50	5.00	2.50
		TOTAL K =	5.00

Hf =	0.00	0.03	0.11	0.25	0.34	0.44	0.68	0.99	1.34
PIPE LENGTH = 1,061 FEET	Hp =	0.00	1.30	4.68	9.90	13.17	16.86	25.47	35.69	47.47
	Hf + Hp =	0.00	1.32	4.79	10.15	13.50	17.30	26.16	36.68	48.81

PORTION OF EXISTING 8" FORCEMAIN REUSED FOR HAPPY VALLEY RD LIFT STATION

SEE ITEM 9 OF RHMG's 4/15/03 CORRESPONDENCE

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

INDIANAPOLIS

OFFICE MEMORANDUM

Date: April 21, 2003

TO: Gary Starks/Don Daily
OWQ, Compliance Section

Through: Mark Stanifer, O.E.

FROM: Terry Ressler, case manager

SUBJECT: Twin Lakes Utilities referral, Case No. 2003-12818-W

This memo is in response to your March 3, 2003 referral of Twin Lakes Utilities, NPDES Permit No. IN 0037176. The referral was for sanitary sewer overflows (SSOs) in the collection system. As you know, Twin Lakes is currently working under Agreed Order Case No. 2001-10373-W, under which they completed WWTP improvements in July of 2002 that should eliminate their effluent violations. Their Performance Period under that Agreed Order will be completed by the end of June 2003.

Upon receipt of this new referral for the SSOs, I called Twin Lakes and was informed that in addition to the WWTP improvements, Twin Lakes is also working on a $2 million dollar sewer project. This sewer project is not included in the current Agreed Order, but they expect this sewer project to cease their overflows. I requested that they submit an update, which Twin Lakes submitted on April 10, 2003 (see attached). The update notes that they expect to complete the sewer project by June 1, 2003, and they expect it will eliminate the sanitary sewer overflows.

After reviewing Twin Lakes' response, I called Darrin Jount, Twin Lakes' Regional Manager (219/988-3018), and requested that they include an additional update on their sewer improvements, along with their final report on completion of their Performance Period, in early July 2003.

Therefore, I am returning this referral for SSOs, based on the fact that Twin Lakes is currently completing sewer improvements that are expected to cease their SSOs. At this time I will not proceed with formal enforcement action under Case No. 2003-12818-W for the SSOs at Twin Lakes Utilities. That referral is being dropped, with no formal enforcement action. I'll forward you a copy of their final report on completion of their Performance Period required by the current Agreed Order, and the update on their sewer project, upon receipt in July 2003. Please monitor any SSOs that Twin Lakes reports from July 2003 through the end of 2003. If their sewer project does not result in eliminating their SSOs, then re-submit this referral and we will proceed with a Notice of Violation. Thanks and if you have any questions please contact me at 317/232-8433.

Twin Lakes Utilities, Inc.

An Affiliate of UTILITIES, INC.

Corporate Office
2335 Sanders Road
Northbrook, IL 60062
(847) 498-6440
(847) 498-2066 fax

Regional Office
20620 Burl Ct., Ste. 200
Joliet, IL 60433
(815) 740-0072
(815) 740-0073 fax

Field Office
9201 E. 123rd Avenue
Crown Point, IN 46307
(219) 988-3018
(219) 988-3789 fax

Thursday, April 10, 2003

Mr. Terry Ressler, IGCN
100 North Senate Avenue
PO Box 6015
Indianapolis, IN 46206-6015

Re: Twin Lakes Utilities, Inc.
Requested Force Main and Lift Station Data

Dear Mr. Ressler:

Per our phone conversation on Thursday, April 3, 2003, I am writing you this letter to inform you of the progress of our project. Extensive discussions regarding routing took place with the community, which lead to a mutually agreed approach to resolve this situation. The selected plan effectively accomplishes the goal with the least amount of destruction to the community.

This two million dollar project was designed by our engineers to divert the flow from about 548 homes in the areas that are experiencing sanitary sewer overflows (SSO's) during significant rain events. Structurally, the entire project includes approximately four miles of predominantly 10" force main and a new dual pump lift station. The majority of the main located inside the community will be directional bored and the portion outside is mainly open-trenched due to the open farm country. A generalized map of the community showing the route of the project has been included for your review.

IDEM permits were then pursued and phase I of the project began in January of 2003. The projected completion date is June 1, 2003 and that deadline is within reach. This new main will greatly reduce the flow in the existing mains, thus eliminating the SSO occurrences. Additionally, our on-going inflow and infiltration research program will continue to ensure the effectiveness of this project.

If you should have any further questions or concerns, please contact me at your convenience.

Sincerely,

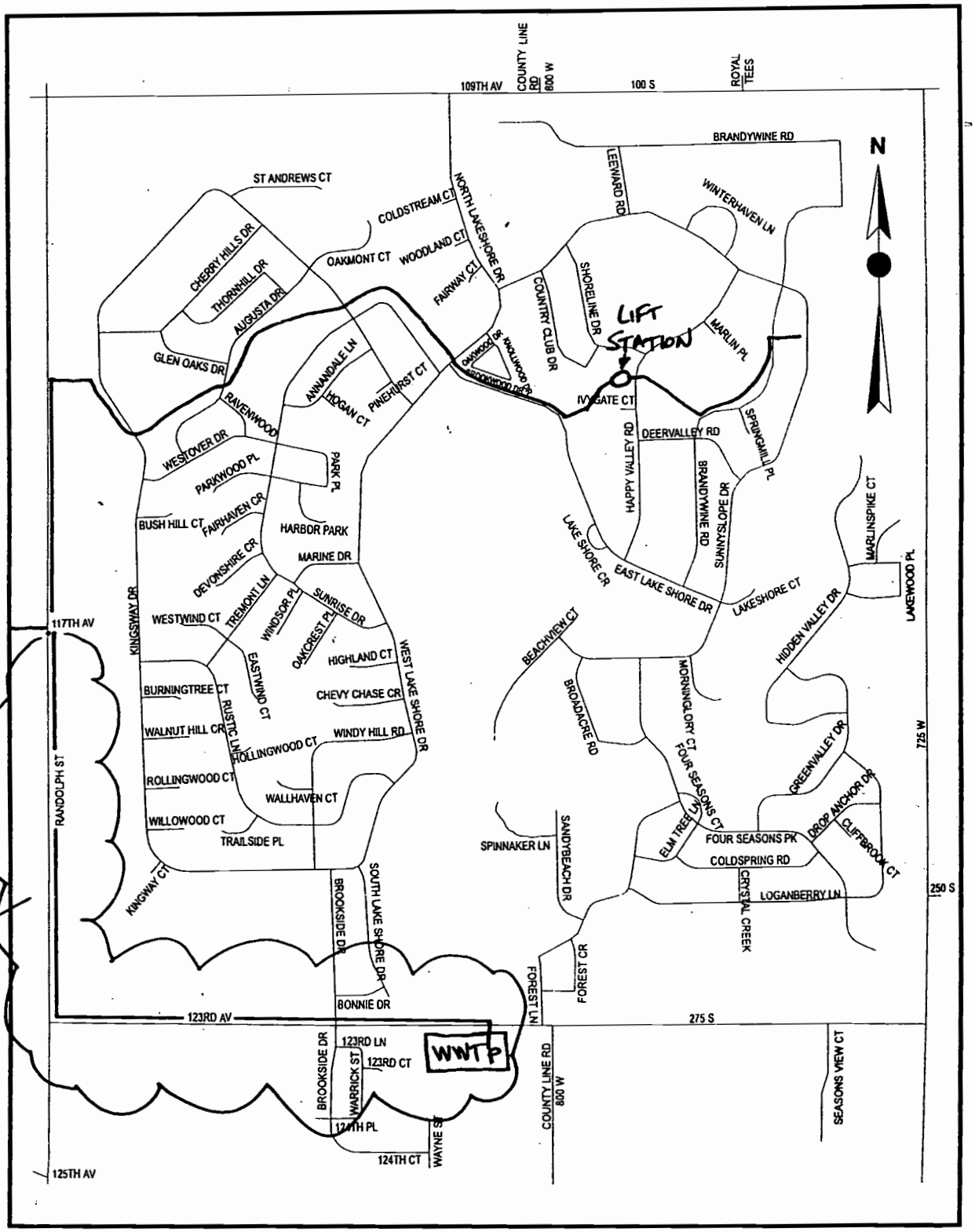
Darrin Yount
Regional Manager

Cc: Harry Zimmer, UI
Chris Montgomery, UI

ENCLOSURE

TWIN LAKES UTILITIES, INC.

FOUR SEASONS



Local Maps

PHASE I

NPDES FACILITY VERIFICATION OF INSPECTION

State Form 47989 (R4/6-04)
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

Facility and Inspection Information

NPDES Permit #: IN0037176

Facility Type Code: ☐ 1 = Municipality ☒ 2 = Industry/Semi-Public ☐ 3 = Agricultural ☐ 4 = State/Federal
☒ Major ☐ Minor

This is to verify that on 10/26/04 (MM/DD/YY) an inspection of the specified facility was conducted by the undersigned representative of the Indiana Department of Environmental Management, Office of Water Quality.

TYPE OF INSPECTION:

___ Compliance Evaluation Inspection (C)
___ Reconnaissance Inspection (R)
___ Industrial User Inspection (I)
___ Sanitary Sewer Overflow (V)
___ Multimedia Screening Evaluation (M)
___ Combined Sewer Overflow Inspection (Y)
___ Compliance Sampling Inspection (S)
X Other COMPLAINT INVESTIGATION (J)

Name and Location of Facility Inspected:	Receiving Waters/POTW:	Permit Expiration Date:
TWIN LAKES UTILITIES 9201 E. 123rd AVE Town/City CROWN POINT County: LAKE	EAST BRANCH OF STONY RUN	MAY 31, 2008
Name(s) of On-Site Representatives: ANTHONY FOX	**Title(s):** OPERATOR	Phone: (219) 908-3018 Fax: ( ) Phone: ( ) Fax: ( )
Certified Operator: ANTHONY FOX — Number: 16378 — Renewal Effective Date: 7/1/04	Class: IV — Expiration Date: 6/30/06	☒ Full Time ☐ Part Time — Hours per Week: ~30
Name and Address of Responsible Official: DARRIN YOUNT	Title: REGIONAL DIRECTOR Contacted: ☐ Yes ■ No	Phone: ( ) (708) 326-3832 Fax: ( ) Facility Design Flow: 1.10 MGD

Areas Evaluated During Inspection

(S = Satisfactory, M = Marginal, U = Unsatisfactory, N = Not Evaluated, NA = Not Applicable)

S	Receiving Waters Appearance	N	Facility/Site	N	Self-Monitoring Program	N	Compliance Schedules
S	Effluent Appearance	S	Operation	S	Flow Measurement	NA	Pretreatment
S	Permit	S	Maintenance	N	Laboratory	N	Effluent Limits Violations
N	CSO/SSO (Sewer Overflow)	N	Sludge Disposal	N	Records/Reports	/	Other:

Preliminary Inspection/Screening Findings*

*These findings are considered preliminary and include specific matters discovered during the inspection that the designated agent of the department believes may be a violation of law or a permit issued by the department.

Single Media Inspection:

X No violations were discovered with respect to the particular items observed during the inspection. (5)
___ Potential violations were discovered but corrected during the inspection. (4)
___ Potential violations were discovered and require a submittal and/or follow-up inspection. (2)
___ Potential violations were observed and may be referred to our Office of Enforcement. (1)
___ Additional information/review is required to evaluate overall compliance.
___ Other _____. (3)

Comments Regarding Marginal and Unsatisfactory Ratings – Including Rule or Permit Citation(s):

—

Distribution: White - Public File; Canary - Site Copy; Pink - Inspector; Goldenrod - Supervisor

Additional Comments Regarding Marginal and Unsatisfactory Ratings – Including Rule or Permit Citation(s) :

Conclusions and Recommendations:

- THIS COMPLAINT INVESTIGATION HAS BEEN INITIATED DUE TO COMPLAINTS OF EXCESSIVE ODORS AND QUESTIONS OF POSSIBLE OVER CAPACITY WITH FLOW.
- NO EXCESSIVE ODORS WERE NOTED AT THE TIME OF INSPECTION. APPROXIMATELY TWO WEEKS AGO, REPAIRS WERE MADE TO THE MIXERS IN THE SLUDGE STORAGE ~~TANKS~~ TANK. WHEN THE AERATION WAS AGAIN STARTED, SOME ODORS MAY HAVE BEEN EMITTED. THERE WERE NO EXCESSIVE ODORS FROM ~~THE~~ TANK DURING THE INSPECTION.
- FLOW RECORDS FOR JULY, AUGUST, AND SEPTEMBER ARE AS FOLLOWS:

  JULY, 48.2% CAPACITY, 3.3 INCHES OF RAINFALL
  AUGUST, 71.6% CAPACITY, 9.55 INCHES OF RAINFALL
  SEPTEMBER, 48.0% CAPACITY, 0.65 INCHES OF RAINFALL
- THE MOST RECENT FLOWMETER CALIBRATIONS WAS CONDUCTED BY JGI ON 5/3/04.

Multi-Media Screening (please note that a multi-media screening is not a comprehensive evaluation of the compliance status of the facility):

- X Multi-media screening not conducted.
- _____ No violations were observed during the limited multi-media screening conducted.
- _____ Potential problems or potential violations were discovered but corrected during the inspection.
- _____ Potential problems or potential violations were discovered and will be referred to the Office(s) of _____ for further investigation and response.

Pollution Prevention

Pollution prevention is the preferred means of environmental protection in Indiana. The goal of pollution prevention is to promote changes in business and commercial operation, especially manufacturing processes, so that less environmental wastes are generated. Your participation in Indiana's pollution prevention program is entirely voluntary. Would your company like to be contacted by IDEM's Office of Pollution Prevention and Technical Assistance?

_____ Yes X No

If you have any pollution prevention questions, you may contact our Office of Pollution Prevention and Technical Assistance at (317) 232-8172 or toll-free (800) 988-7901 or visit their Web site at *http://www.in.gov/idem/oppta* .

Summary and Correction Information

A summary of violations and concerns noted during the inspection were verbally communicated to the undersigned representative during the inspection. The facility should correct any deficiencies noted as soon as possible. Corrections made and verified during the inspection may still be cited as violations.

_____ Written inspection summary will be provided within 45 days.

X Written report provided at the conclusion of the inspection. If upon subsequent review, any changes to this report are deemed necessary, a revised report will be sent to the subject facility within 45 days.

IDEM Representative:

Printed Name	Signature	Phone Number	Date	Time
NICHOLAS K. REAM		(219) 757-0265	10/26/04	In: 1300 Out: 1500

Owner/Agent Representative/Title:

Printed Name	Signature	Title	Phone Number	Date
ANTHONY R. FOX	Anthony R. Fox	Operator	219-988-3018	10/26/04

For IDEM Internal Use:

Section Chief or Regional Deputy Director:	Date:	For:
Rick Londrigan	11/15/04	☐ Follow-up ☐ Enforcement ☐ NPDES Permits ☐ Other

Distribution: White - Public File; Canary - Site Copy; Pink - Inspector; Goldenrod - Supervisor

(R/10-03)

IDEM

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER MANAGEMENT
Complaint Investigation Report

100 NORTH SENATE AVENUE
P. O. BOX 6015
INDIANAPOLIS, IN 46206-6015

General Information

Name of Alleged Responsible Party:
Twin Lakes Utilities

Date Reported:
10/26/04

Address and Directions
9201 E 123rd Ave
Crown Point, IN

County:
Lake

Receiving Stream:.
East Branch of Stony Run Creek

Received by: ☐ RRR; ☐ RLP; ☐ RAC; ☐ Cler.; ☒ Insp.; ☐ Other
Specify name of Inspector, Clerical or Other:
Nicholas K. Ream

Via: ☒ Phone; ☐ Letter; ☐ Person; ☐ Internet; ☐ Fax; ☐ Referral
Referred by:

Complainant Type: ☒ Individual; ☐ Anonymous; ☐ Public Official

Report to Complainant?: ☒ Yes ☐ No

Complainant's Name: ☒
Kathy Howe

PhoneNumber
(219) 988-5312

Address:
12444 County Line Road
Crown Point, IN 46307

City:
Crown Point

Nature of Complaint: ☐ Water Pollution; ☒ NPDES Facility Failure; ☐ Basement Backup; ☐ Septic Tank Ponding; ☐ Other

Description of Complaint:
Poor odors tend to be present. There are concerns over the hydraulic capacity of the facility.

Responsible party: *(To be completed by Inspector)*
None

Address/Location:
N/A

City:
N/A

Response

☒

I. First Response Date: *10/26/04* *(visit)*

II. Investigation Date: *10/26/04*

III. Closed Date: *10/26/04*

A. No Action Needed ☒
1. No Problem Observed ☒
2. NPDES Facility Corrected ☐

B. Referred to Other Agency: _____ ☐
Contact: _____ Phone Number: _____

C. Compliance Action
1. IS/VL Letter Date: _____ ☐
2. OATS Referral Date: _____ ☐

#_____

D. Enforcement Referral Date: _____ ☐

IV. Report Sent Date: *11/03/04*

P-file

NPDES FACILITY VERIFICATION OF INSPECTION

State Form 47989 (R5 / 4-05)
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

FACILITY AND INSPECTION INFORMATION

NPDES permit number: IN0037176

Facility type code: ☐ 1 = Municipality ☒ 2 = Industry/Semi-Public ☐ 3 = Agricultural ☐ 4 = State/Federal
☒ Major ☐ Minor

This is to verify that on 08/04/05 (*month, day, year*) an inspection of the specified facility was conducted by the undersigned representative of the Indiana Department of Environmental Management, Office of Water Quality.

TYPE OF INSPECTION:
____ Compliance Evaluation Inspection (C)
____ Reconnaissance Inspection (R)
____ Industrial User Inspection (I)
____ Sanitary Sewer Overflow (V)
____ Multimedia Screening Evaluation (M)
____ Combined Sewer Overflow inspection (Y)
X Compliance Sampling Inspection (S)
X Other COMPLAINT INVESTIGATION (J)

Name of facility inspected: TWIN LAKES UTILITIES	Receiving waters / POTW: EAST BRANCH OF STONEY RUN CREEK	Expiration date of permit: 5/31/08
Location of facility inspected (*number, street, city, county*): 9201 E 123rd AVENUE CROWN POINT IN 46307 PORTER CO.		
Name(s) of on-site representatives: LORENZO WALLACE	Title(s): OPERATOR	Phone: (219) 987-3018 Fax: ( ) Phone: ( ) Fax: ( )
Certified operator: ~~CHRIS MONTGOMERY~~ NR ANTHONY FOX	Number: 16378 Effective date of renewal: 7/1/04	Class: IV Date of expiration: June 30, 2006
		☒ Full time ☐ Part time Hours per week: 40+
Name of responsible official: DARRIN YOUNT	Title: REGIONAL MANAGER	Phone: (708) 514-5012 Fax: ( )
Address of responsible official (*number, street, city, state, ZIP code*): PO BOX 656 MOLENA IL 60448	Contacted ☐ Yes ☒ No	Facility design flow: 1.10 MGD

AREAS EVALUATED DURING INSPECTION

(S = Satisfactory, M = Marginal, U = Unsatisfactory, N = Not Evaluated, NA = Not Applicable)

S	Receiving Waters Appearance	S	Facility / Site	N	Self-Monitoring Program	N	Compliance Schedules
S	Effluent Appearance	N	Operation	N	Flow Measurement	NA	Pretreatment
N	Permit	N	Maintenance	N	Laboratory	N	Effluent Limits
N	CSO / SSO (Sewer Overflow)	N	Sludge Disposal	N	Records / Reports		Other:

PRELIMINARY INSPECTION / SCREENING FINDINGS *

* These findings are considered preliminary and include specific matters discovered during the inspection that the designated agent of the department believes may be a violation of law or a permit issued by the department.

SINGLE MEDIA INSPECTION:
X No violations were discovered with respect to the particular items observed during the inspection. (5)
____ Potential violations were discovered but corrected during the inspection. (4)
____ Potential violations were discovered and require a submittal and/or follow-up inspection. (2)
____ Potential violations were observed and may be referred to our Office of Enforcement. (1)
____ Additional information/review is required to evaluate overall compliance.
____ Other _____ . (3)

Comments regarding unsatisfactory ratings - Including rule or permit citation(*s*):

Additional comments regarding unsatisfactory ratings - Including rule or permit citation(s):

Comments regarding marginal ratings - Conclusions and recommendations:

THIS INSPECTION IS BEING CONDUCTED DUE TO ODOR COMPLAINTS. THE FACILITY INSPECTION REVEALED NO EXCESSIVE ODORS FROM THE TREATMENT PLANT AT THE TIME OF INSPECTION. THE COMPLAINAT'S PROPERTY HAD NO SEWAGE ODORS AT THE TIME OF INSPECTION. THE COMPLAINANT WILL BE URGED TO CALL AGAIN WHEN THE ODOR IS NOTED.

MULTI-MEDIA SCREENING *(please note that a multi-media screening is not a comprehensive evaluation of the compliance status of the facility)*

X Multi-media screening not conducted.
____ No violations were observed during the limited multi-media screening conducted.
____ Potential problems or potential violations were discovered but corrected during the inspection.
____ Potential problems or potenital violations were discovered and will be referred to the Office(s) of _____ for further investigation and response.

POLLUTION PREVENTION

Pollution prevention is the preferred means of environmental protection in Indiana. The goal of pollution prevention is to promote changes in business and commercial operation, especially manufacturing processes, so that less enviornmental wastes are generated. Your participation in Indiana's pollution prevention program is entirely voluntary. Would your company like to be contacted by IDEM's Office of Pollution Prevention and Technical Assistance?

☐ Yes ☒ No

If you have any pollution prevention questions, you may contact our Office of Pollution Prevention and Technical Assistance at (317) 232-8172 or toll-free (800) 988-7901 or visit their web site at *http://www.in.gov/idem/oppta* .

SUMMARY AND CORRECTION INFORMATION

A summary of violations and concerns noted during the inspection were verbally communicated to the undersigned representative during the inspection. The facility should correct any deficiencies noted as soon as possible. Corrections made and verified during the inspection may still be cited as violations.

____ Written inspection summary will be provided within 45 days.

X Written report provided at the conclusion of the inspection. If upon subsequent review, any changes to this report are deemed necessary, a revised report will be sent to the subject facility within 45 days.

IDEM REPRESENTATIVE:

Printed name	Signature	Telephone number	Date *(month,day,year)*	Time
NICHOLAS K. ROAM	Nicholas K Roam	(219) 757-0265	08/04/05	In: 1300 Out: 1500

OWNER / AGENT REPRESENTATIVE / TITLE:

Printed name	Signature	Title	Telephone number	Date *(month, day, year)*
Lorenzo Wallace	Lorenzo Wallace	Operator	(219) 988-3018	8/04/05

FOR IDEM INTERNAL USE:

Section Chief or Regional Deputy Director	Date *(month, day, year)*	For:
9/14/05 RJ Pearson	9/14/05	☐ Follow up ☐ Enforcement ☐ NPDES permits ☐ Other

Distribution: White - Public file; Canary - Site copy

(R/10-03)

IDEM	INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF WATER MANAGEMENT **Complaint Investigation Report**	100 NORTH SENATE AVENUE P. O. BOX 6015 INDIANAPOLIS, IN 46206-6015

General Information

Name of Alleged Responsible Party:
Twin Lakes Utilities

Date Reported:
August 4, 2005

Address and Directions

Twin Lakes Utilities
9201 East 123rd Avenue
Crown Point, IN 46307

County:
Lake

Receiving Stream:.
East Branch of Stoney Run Creek

Received by: ☐ RRR; ☐ RLP; ☐ RAC; ☐ Cler.; ☐ Insp.; ☒ Other
Specify name of Inspector, Clerical or Other:
Robert J. Simmons

Via: ☒ Phone; ☐ Letter; ☐ Person; ☐ Internet; ☐ Fax; ☐ Referral
Referred by:

Complainant Type: ☒ Individual; ☐ Anonymous; ☐ Public Official

Report to Complainant?: ☒ Yes ☐ No

Complainant's Name: ☒
Gail Hoffman

PhoneNumber
(219) 663-7164

Address:
3933 South Lakeshore Drive
Crown Point, IN 46307

City:
Crown Point

Nature of Complaint: ☐ Water Pollution; ☐ NPDES Facility Failure; ☐ Basement Backup; ☐ Septic Tank Ponding; ☒ Other

Description of Complaint:
Foul odors from the treatment facility

Responsible party: *(To be completed by Inspector)*
N/A

Address/Location:

N/A

City:
N/A

Response

☒

I. First Response Date: *8/4/05* *(call)*

II. Investigation Date: *8/4/05*

III. Closed Date: *8/4/05*

A. No Action Needed ☒
1. No Problem Observed ☒
2. NPDES Facility Corrected ☐

B. Referred to Other Agency: _____ ☐

Contact: _____ Phone Number: _____

C. Compliance Action
1. IS/VL Letter Date: _____ ☐
2. OATS Referral Date: _____ ☐

#_____

D. Enforcement Referral Date: _____ ☐

IV. Report Sent Date: *8/12/05*

IDEM	OFFICE OF WATER MANAGEMENT **Complaint Investigation Report**	PAGE 2 OF 2 (Complaint: 2 OF 2)

Findings of Investigation

Name(s) of individual(s) contacted:	Title(s):	Phone: ( ) Fax: ( )
		Phone: ( ) Fax: ( )
		Phone: ( ) Fax: ( )

Nature of problem found during investigation:

Samples taken? ☐ Yes ☐ No	**Pictures taken?** ☐ Yes ☐ No
Is condition a State Water Quality Violation? ☐ Yes ☐ No	
Does facility discharge wastewater without a valid NPDES permit? ☐ Yes ☐ No (Permit #:)	
Does facility need an NPDES permit? ☐ Yes ☐ No	

Comments:

Name(s) and Signature(s) of Inspector(s):	Date:	Office/Telephone:

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We make Indiana a cleaner, healthier place to live.

Mitchell E. Daniels, Jr.
Governor

Thomas W. Easterly
Commissioner

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

December 30, 2005

VIA CERTIFIED MAIL 7002 0510 0002 5827 3019

Mr. Chris Montgomery, Regional Director
Twin Lakes Utilities
9201 East 123rd Avenue
Crown Point, IN 46307

Re: Inspection Summary Letter
Twin Lakes Utilities
NPDES Permit No. IN0037176
Crown Point, Lake County

Dear Mr. Montgomery:

On December 5, 2005, a representative of the Indiana Department of Environmental Management, Northwest Regional Office, conducted a complaint investigation of Twin Lakes Utilities, located at Crown Point, Indiana. This inspection was conducted pursuant to IC 13-14-2-2. For your information, and in accordance with IC 13-14-5, a summary of the inspection is provided below:

Type of Inspection:	X	Complaint Investigation
Results of Inspection:	___	No violations were observed.
	___	Additional information/review is required to evaluate overall compliance.
	X	Potential problems were discovered or observed.

Over the course of the investigation, sludge was visible floating in the chlorine contact chamber. The sludge was not visibly exiting the chamber due to a concrete weir in the chamber holding back the material. There are concerns of the sludge escaping over the weir and into the East Branch of Stoney Run Creek.

It was also noted that the influent did have a strong, septic odor. The plant operations did not appear to be impacted at the time of the investigation due to the septic quality of the influent.

Please direct any response to this letter and any questions to Nick Ream at (219) 757-0265.

Sincerely,

R. Pearson for

Rick Roudebush, Inspections Section Chief
Compliance Branch
Office of Water Quality

NPDES FACILITY VERIFICATION OF INSPECTION

State Form 47989 (R5 / 4-05)
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

FACILITY AND INSPECTION INFORMATION

NPDES permit number: IN0037176 NR

Facility type code: ☐ 1 = Municipality ☒ 2 = Industry/Semi-Public ☐ 3 = Agricultural ☐ 4 = State/Federal
☒ Major ☐ Minor

This is to verify that on 12/04/05 (*month, day, year*) an inspection of the specified facility was conducted by the undersigned representative of the Indiana Department of Environmental Management, Office of Water Quality.

TYPE OF INSPECTION:

_____ Compliance Evaluation Inspection (C)
_____ Reconnaissance Inspection (R)
_____ Industrial User Inspection (I)
_____ Sanitary Sewer Overflow (V)
_____ Multimedia Screening Evaluation (M)
_____ Combined Sewer Overflow inspection (Y)
_____ Compliance Sampling Inspection (S)
X Other COMPLIANT INVESTIGATION (J)

Name of facility inspected: TWIN LAKES UTILITIES		Receiving waters / POTW: EAST BRANCH OF STONEY RUN	Expiration date of permit: 5/31/08
Location of facility inspected *(number, street, city, county)*: 9201 E 123RD CROWN POINT IN 46307			
Name(s) of on-site representatives: ANTHONY FOX		Title(s): LEAD OPERATOR	Phone: (219) 988-3018 Fax: ( ) Phone: ( ) Fax: ( )
Certified operator: ANTHONY FOX	Number: 16378 Effective date of renewal: 7/1/04	Class: IV Date of expiration: 6/30/06	☒ Full time ☐ Part time Hours per week: 40+
Name of responsible official: CHRIS MONTGOMERY		Title: REGIONAL DIRECTOR	Phone: ( ) Fax: ( )
Address of responsible official *(number, street, city, state, ZIP code)*: 9201 E 123RD CROWN POINT IN 46307		Contacted ☐ Yes ☒ No	Facility design flow: 1.10 MGD

AREAS EVALUATED DURING INSPECTION

(S = Satisfactory, M = Marginal, U = Unsatisfactory, N = Not Evaluated, NA = Not Applicable)

S	Receiving Waters Appearance	S	Facility / Site	N	Self-Monitoring Program	NA	Compliance Schedules
S	Effluent Appearance	M	Operation (1)	S	Flow Measurement	NA	Pretreatment
S	Permit	S	Maintenance	N	Laboratory	N	Effluent Limits
N	CSO / SSO (Sewer Overflow)	N	Sludge Disposal	N	Records / Reports	/	Other:

PRELIMINARY INSPECTION / SCREENING FINDINGS *

* These findings are considered preliminary and include specific matters discovered during the inspection that the designated agent of the department believes may be a violation of law or a permit issued by the department.

SINGLE MEDIA INSPECTION:

_____ No violations were discovered with respect to the particular items observed during the inspection. (5)
_____ Potential violations were discovered but corrected during the inspection. (4)
_____ Potential violations were discovered and require a submittal and/or follow-up inspection. (2)
_____ Potential violations were observed and may be referred to our Office of Enforcement. (1)
_____ Additional information/review is required to evaluate overall compliance.
X Other POTENTIAL PROBLEMS WERE OBSERVED . (3)

Comments regarding unsatisfactory ratings - Including rule or permit citation(s):

Distribution: White - Public file; Canary - Site copy

Additional comments regarding unsatisfactory ratings - Including rule or permit citation(s):

Comments regarding marginal ratings - Conclusions and recommendations:

THIS COMPLAINT INVESTIGATION WAS INITIATED DUE TO A COMPLAINT OF FOUL ODORS. SEPTIC ODORS WERE NOTED AT THE RAW INFLUENT, BUT DOES NOT APPEAR TO BE INTERFERING WITH PLANT OPERATIONS.

① SLUDGE IS VISIBLE FLOATING IN THE CHLORINE CONTACT CHAMBER. THE ~~SLUDGE~~ MAJORITY OF THE SLUDGE IS CAUGHT BY CONCRETE WIER STRUCTURE. THIS COULD EASILY LEAD TO SLUDGE ESCAPING THE PLANT, BUT WAS NOT NOTICED DURING THE INVESTIGATION.

MULTI-MEDIA SCREENING *(please note that a multi-media screening is not a comprehensive evaluation of the compliance status of the facility)*

X Multi-media screening not conducted.
____ No violations were observed during the limited multi-media screening conducted.
____ Potential problems or potential violations were discovered but corrected during the inspection.
____ Potential problems or potenital violations were discovered and will be referred to the Office(s) of _____ for further investigation and response.

POLLUTION PREVENTION

Pollution prevention is the preferred means of environmental protection in Indiana. The goal of pollution prevention is to promote changes in business and commercial operation, especially manufacturing processes, so that less enviornmental wastes are generated. Your participation in Indiana's pollution prevention program is entirely voluntary. Would your company like to be contacted by IDEM's Office of Pollution Prevention and Technical Assistance?

☐ Yes ☒ No

If you have any pollution prevention questions, you may contact our Office of Pollution Prevention and Technical Assistance at (317) 232-8172 or toll-free (800) 988-7901 or visit their web site at *http://www.in.gov/idem/oppta* .

SUMMARY AND CORRECTION INFORMATION

A summary of violations and concerns noted during the inspection were verbally communicated to the undersigned representative during the inspection. The facility should correct any deficiencies noted as soon as possible. Corrections made and verified during the inspection may still be cited as violations.

____ Written inspection summary will be provided within 45 days.

X Written report provided at the conclusion of the inspection. If upon subsequent review, any changes to this report are deemed necessary, a revised report will be sent to the subject facility within 45 days.

IDEM REPRESENTATIVE:

Printed name	Signature	Telephone number	Date *(month,day,year)*	Time
NICHOLAS K. REAM		(219)757-0265 ~~-0238~~	12/05/05	In: 1330 Out: 1600

OWNER / AGENT REPRESENTATIVE / TITLE:

Printed name	Signature	Title	Telephone number	Date *(month, day, year)*
ANTHONY R. FOX	Anthony R. Fox	Lead Operator	219-988-3018	12/5/05

FOR IDEM INTERNAL USE:

Section Chief or Regional Deputy Director	Date *(month, day, year)*	For:
	12/29/05	☐ Follow up ☐ Enforcement ☐ NPDES permits ☐ Other

Distribution: White - Public file; Canary - Site copy

(R/10-03)

IDEM	INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF WATER MANAGEMENT **Complaint Investigation Report**	100 NORTH SENATE AVENUE P. O. BOX 6015 INDIANAPOLIS, IN 46206-6015

General Information

Name of Alleged Responsible Party: *Twin Lakes Utilities*	**Date Reported:** *12/2/05*
Address and Directions *9201 East 123rd Avenue* *Crown Point, IN 46307*	**County:** *Lake* **Receiving Stream:.** *East Branch of Stoney Run*

Received by: ☐ RRR; ☐ RLP; ☐ RAC; ☐ Cler.; ☒ Insp.; ☐ Other
Specify name of Inspector, Clerical or Other:
Nicholas K. Ream

Via: ☒ Phone; ☐ Letter; ☐ Person; ☐ Internet; ☐ Fax; ☐ Referral
Referred by:

Complainant Type: ☐ Individual; ☒ Anonymous; ☐ Public Official

Report to Complainant?: ☐ Yes ☒ No

Complainant's Name: ☒

PhoneNumber

Address:

City:

Nature of Complaint: ☐ Water Pollution; ☐ NPDES Facility Failure; ☐ Basement Backup; ☐ Septic Tank Ponding; ☒ Other

Description of Complaint:
The treatment plant has a foul, strong odor

Responsible party: *(To be completed by Inspector)*
N/A

Address/Location:
N/A

City:
N/A

Response

☒

I. First Response Date: *12/5/05* *(visit)*

II. Investigation Date: *12/5/05*

III. Closed Date: *12/5/05*

A. No Action Needed ☐
1. No Problem Observed ☐
2. NPDES Facility Corrected ☐

B. Referred to Other Agency: _____ ☐
Contact: _____ Phone Number: _____

C. Compliance Action
1. IS/VL Letter Date: _____ ☒
2. OATS Referral Date: _____ ☐

#_____

D. Enforcement Referral Date: _____ ☐

IV. Report Sent Date: *12/14/05*

IDEM	OFFICE OF WATER MANAGEMENT **Complaint Investigation Report**	PAGE 2 OF 2 (Complaint: 2 OF 2)

Findings of Investigation

Name(s) of individual(s) contacted:	Title(s):	Phone: ( ) Fax: ( )
		Phone: ( ) Fax: ( )
		Phone: ( ) Fax: ( )

Nature of problem found during investigation:

Samples taken? ☐ Yes ☐ No	**Pictures taken?** ☐ Yes ☐ No
Is condition a State Water Quality Violation? ☐ Yes ☐ No	
Does facility discharge wastewater without a valid NPDES permit? ☐ Yes ☐ No (Permit #:)	
Does facility need an NPDES permit? ☐ Yes ☐ No	

Comments:

Name(s) and Signature(s) of Inspector(s):	Date:	Office/Telephone:

Utilities, Inc.™

IDEM
OFFICE OF
WATER QUALITY

2009 OCT 10 A 2:14

October 1, 2009

Indiana Department of Environmental Management
Office of Water Quality
Compliance / Evaluation
100 North Senate Avenue
Indianapolis, IN 46204-2251
Attn: Nick Ream

Re: Twin Lakes WWTP Odor Control Progress

Dear Mr. Ream;

Twin Lakes Utilities, Inc. (TLU) is aware that there have been concerns regarding intermittent odors coming from the TLU wastewater plant located on 123rd Ave in Crown Point, Indiana. TLU would like to assure the Indiana Department of Environmental Management (IDEM) and the residents located near the plant that we take this issue seriously and that we are taking the proper steps to locate the possible cause of the odor. TLU has implemented an odor response plan that will require TLU personnel to respond as immediately as possible to a call regarding odor and prepare the proper paperwork to record this data (attached). This plan will be the first step in the process to properly identify what may be causing these odor concerns. TLU will analyze this data and determine what factors are occurring at the time of the call to develop a trend.

TLU is currently looking into the following methods of odor control that may be put in service once the source of the odor is deducted:

- In-Pipe Technologies
  - This is an addition of a chemically enhanced bacteria drip that would be added to lift station L. This product has the ability to lower hydrogen sulfide content in raw sewer.
- Bioteck, Inc.
  - This is similar to the product above but can be dripped directly into the head works of the wastewater plant.
- Synesco Systems
  - This system is a mechanical media filter that would involve covering the head works of the wastewater plant and creating a vacuum, pulling air from the head works and running it through a media filter before expelling it into the open atmosphere.

It is important to understand that until a source is determined, it would not be effective or efficient for TLU to place in service one or more of the above methods as these costs would be directly passed on to TLU customers without knowing the source of any odor. TLU will keep IDEM and residents concerned up to date as to the progress of this plan. At this time TLU is not able to place a timeline for completion of this project, but will be diligent in its efforts regarding this concern.

Regards,

Tom Tapella /ama

Thomas A. Tapella
Utilities, Inc.
Midwest Regional Manager

cc: Paul Burris; Utilities, Inc. Regional Vice-President
Mike Miller; Utilities, Inc. Midwest Regional Director
Larry Goldsmith: Utilities, Inc. Compliance and Safety Manager
Nile Howe; Homeowner
Michael Guerrero, Homeowner

encl. (2)

ODOR COMPLAINT FORM

This form is intended to log odor complaints in Twin Lakes Utilities, Inc. service area. **Operators, on standby duty, receiving an odor complaint call will respond in the same manner as other after hour's emergency call.** Response time should be as soon as possible, but should not override any emergency action the responding operator is involved in at the time of the call. If involved in an emergency call out at the time of odor complaint call, forward call to the wastewater lead operator or area manager.

Use the following steps as general guidelines when responding to odor complaint calls.

1. Upon receiving odor complaint call fill in information in section "A".
2. If customer gives you their address proceed to customer location and make customer contact in person. Fill out section "B". Proceed to step 3.
   NOTE: If no address is given, note so in "customer comments" in section "A" (put down what time you arrived on site in Section "B), and proceed to step 5 (then disregard step 6.
3. Conduct survey of vicinity of customer address and fill in information in section "C-1".
4. After survey of vicinity of customer address is complete advise customer of intent to survey facility complaint refers to and proceed to facility.
5. Conduct survey of facility and surrounding area fill in section "C-2." Survey should include interior and exterior (parameter) inspection.
6. If odor is in evidence, notify Area Manager.
7. Return to customer and record any additional comments on bottom of form in "additional customer Comments".

After odor complaint call out is complete forward report to Area Manager next working day.

SECTION A

- **Time/Date Complaint received** _____
- **Name of customer filing complaint** _____
- **Phone Number of customer** _____
- **Address of customer filing complaint (if given)** _____
  _____
- **Name of site complaint refers to** _____
- **Nature of complaint** _____
  _____
- **Comments offered by Customer during phone call** _____
  _____
  _____

SECTION B

- **Time you arrived and made contact with customer** _____
- **Further comments offered by customer (if applicable, provide any reason why you could not contact customer.)** _____
  _____
  _____

SECTION C-1 (SURVEY VICINITY OF CUSTOMER ADDRESS)

Strength of odor

1. _____No odor
2. _____Faint
3. _____Noticeable
4. _____Definite
5. _____Strong
6. _____Overwhelmingly strong

Description of odor

1. _____Ammonia
2. _____Decayed Cabbage
3. _____Fecal
4. _____Fishy
5. _____Garlic
6. _____Medicinal
7. _____Rotten Egg
8. _____Skunk
9. _____Other

Wind direction

1. _____North wind
2. _____South wind
3. _____East wind
4. _____West wind
5. _____No wind

Strength of wind

1. _____Quiet
2. _____Mild
3. _____Gusty
4. _____Strong
5. _____Very strong

SECTION C-2 (SURVEY VICINITY OF UICN FACILITY)

Strength of odor

1. _____No odor
2. _____Faint
3. _____Noticeable
4. _____Definite
5. _____Strong
6. _____Overwhelmingly strong

Description of odor

1. _____Ammonia
2. _____Decayed Cabbage
3. _____Fecal
4. _____Fishy
5. _____Garlic
6. _____Medicinal
7. _____Rotten Egg
8. _____Skunk
9. _____Other

Wind direction

1. _____North wind
2. _____South wind
3. _____East wind
4. _____West wind
5. _____No wind

Strength of wind

1. _____Quiet
2. _____Mild
3. _____Gusty
4. _____Strong
5. _____Very strong

C-3 Alternative Odor Origin

_____

_____

Additional customer or operator comments _____

_____

_____

Operator Printed Name _____
Operator Signature _____

Area Manager Printed Name _____
Area Manager Signature _____

Customer Printed Name _____
Customer Signature _____

45389, CUII
09/08/2020

Data Request OUCC DR 3 - 11

Please state when CUII removed the comminutor at the WWTP and the reasons it was removed but not replaced. If CUII did not document the date it removed the comminutor, please provide your best estimate.

Objection:

Response:

The Company removed the comminutor in approximately July 2013. The Company did not replace the comminutor because the comminutor did not resolve rag issues in the treatment process and instead installed the manual bar screen. The Company identified that the debris ground by the comminutor would reconstitute and tangle later in the treatment process.

Station F. By the end of this year we will also have completed the rehabilitation of 64 manholes identified as contributors to the I&I problem. Other specific projects are addressed in the section of my testimony under the caption of System Improvements.

System Improvements

Q. Please describe improvements made to the TLUI water or wastewater system in the recent past.

A. Petitioner's Exhibit CKM-4 is a summary of the major projects that have been completed since the last rate case, 2003 through June 30, 2006, which have already been completed. Petitioner's exhibit CKM-5 is a summary of major projects expected to be completed by December 31, 2006, such as the replacement of 1100' of sewer main on Kingsway Drive. This main was allowing inflow and infiltration into our sanitary sewer system. Sewer mains which were also contributing to the I & I problem were replaced on Green Valley Drive and Brandywine Drive. At the wastewater treatment plant ("WWTP"), we recently installed valves to help us control flow within that plant. We also replaced our effluent meter, which was incorrectly measuring flow and replaced the unit that breaks down inorganic material that comes into the WWTP. Also at the WWTP, we have replaced parts on our south clarifier's rake arm drive and removed an abandoned underground storage tank. Finally, we have added two new fire hydrants in our system and replaced eleven more.

Twin Lakes Utilities, Inc.
Cause No. 43128
Montgomery Direct
11/13/06

Comminutor (Muffin Monster) replacement

Petitioner's Exhibit CKM-4

#	Project Name	Project Description	Cost	In-service date
11	Replace 200' of Sewer Main - Hidden Valley	To replace a section of main that was allowing backups to occur in our sanitary sewer system.	$ 28,402.00	October-05
12	Replace 11 and Install 2 Hydrants	To replace non-working hydrants and install new hydrants.	$ 39,785.00	October-05
13	Replace 40' of water main on Walnut Hill Drive	To replace a section of main that has been the source of three water main breaks over the last few months.	$ 13,195.00	December-05
14	Rehab High Service Pump #4	To replace key parts in the pump.	$ 8,950.00	January-06
15	Rehab Well #6	To aggressively clean the well and replace the pump and motor.	$ 21,400.00	January-06
16	Remove an Underground Storage Tank from the WWTP	To remove an abandoned storage tank from the Sewer Plant.	$ 14,919.00	February-06
17	Repair the South Clarifier at the WWTP	To replace the scrapers and the rake arm drive parts on the clarifier drive.	$ 11,532.00	March-06
18	Rehab Well #3	To replace the non-working pump and motor to this well.	$ 8,569.00	May-06
19	Replace the 'Muffin Monster'	To replace the unit that breaks down inorganics that come into the WWTP.	$ 19,044.00	June-06
20	Rehab Well #7 (2nd replacement)	To replace the non-working pump and motor to this well.	$ 9,497.00	June-06
	Totals		$ 300,382.00	

PETITIONER'S EXHIBIT NO. 3

AMERICAN SUBURBAN UTILITIES, INC.

IURC CAUSE NO. 44676 S1

RESPONSIVE TESTIMONY

OF

MARCENE TAYLOR

SPONSORING ATTACHMENTS MT-1 THROUGH MT-3

Construction Documents Cost Estimate Page 2 of 2

Carriage Estates III Wastewater Treatment Plant **March 12, 2021**
American Suburban Utilities **MTI Job No. 20-0667**
West Lafayette, Indiana

Component Detail	*Quantity*	*Unit*	*Rate*	*Subtotal $*	*Total $*
40. Process Equipment					**2,126,120**
11200 sub sewage lift station pumps					49,144
Existing influent lift station					
Remove, clean and repair Zoeller M#6682 and reinstall	3	EA	2,799.47	8,398	
New influent lift station					
New Zoeller M#6682 submersible pumps, 6" discharge	2	EA	15,598.94	31,198	
Base mounting elbow (1 future)	3	EA	598.93	1,797	
Guide rails, 32', 2 per pump	192	LF	3.74	718	
Mid rail brackets	9	EA	149.73	1,348	
Pull chains	96	LF	2.99	287	
Hatches, 36" x 36"	3	EA	1,799.47	5,398	
Supernatant return lift station					30,076
New Zoeller M#6220 submersible pumps, 4" discharge	2	EA	12,098.94	24,198	
Base mounting elbow (1 future)	2	EA	598.93	1,198	
Guide rails, 32', 2 per pump	92	LF	3.74	344	
Mid rail brackets	4	EA	149.73	599	
Pull chains	46	LF	2.99	138	
Hatches, 36" x 36"	2	EA	1,799.47	3,599	
11300 macerator					56,289
Model CMD 4010-SDM 2.0 Channel Monster, 4600 GPM	2	EA	26,197.89	52,396	
Embed slice rails and anchor bolts	1	LS	1,796.80	1,797	
Model PC2222 controller	2	EA	598.94	1,198	
Frame assembly and slide gate	1	EA	898.40	898	
Flow meters					37,094
Existing lift station flow meter - Endress & Hauser 8" Mag Flow Meter W-400-5W4C2H. 4,850gpm	1	EA	4,098.93	4,099	
Existing lift station flow meter - Endress & Hauser 10" Mag Flow Meter W-400-5W4C2H. 7,5000gpm	2	EA	15,598.94	31,198	
Transmitter units with supports	3	EA	598.94	1,797	

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

Brian Rockensuess
Commissioner

December 20, 2021

Via Email to: loren.grosvenor@uiwater.com
Mr. Loren Grosvenor, Area Manager
Community Utilities of Indiana, Inc.
10966 Four Seasons Place, Suite 100
Crown Point, Indiana 46307

Dear Mr. Grosvenor:

Re: **Inspection Summary/ Noncompliance Letter**
Community Utilities WWTP
NPDES Permit No. IN0037176
Crown Point, Lake County

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

Date(s) of Inspection: December 15, 2021

Type of Inspection: Compliance Evaluation Inspection

Inspection Results: Violations were observed.

The following concerns were noted:

1. Part II. A. 3 of the permit requires, in accordance with 327 IAC 5-2-8(4) the permittee to furnish any information that it knows or has reason to believe would constitute cause for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. The permit was given an overall rating of unsatisfactory because the comminutor listed within the permit was removed from the facility. Either the equipment will have to be returned to service or the permit will have to be modified to remove the treatment equipment.

2. The Collection System evaluation generated a marginal rating. The facility is currently on a Early Warning Sewer Ban list due to hydraulic overloading. A review of the last 12 months flows indicted a twelve month average of 79.5% capacity with three months over 90%, one of which was over 100% at 108%. Mr. Grosvenor indicated this was due to lining within the collection system and sump pump inspections and disconnections.

3. Operation and Maintenance were rated as marginal. During the inspection,

it was observed that one of the aeration tanks for the South Battery had an air leak within the tank causing the wastewater to be heavily agitated. Community Utilities personnel were aware of the air leak and were attempting to determine ways to correct the air leak. Shear flock appeared minimal to non-existent as solids were minimal in the secondary clarifier.

4. The Laboratory evaluation generated a marginal rating. A review of the contract laboratory reports indicated some of the results under CBOD had codes of K9, with a further indication that the dissolved oxygen (D.O.) reading for the sample was greater than 9.0 mg/L. The D.O. should be lowered prior to set up of the samples.

5. The Effluent Limits Compliance area was rated marginal due to self-reported violations of the limits detailed in Part I. A. of the NPDES Permit. Review of DMRs revealed one TSS maximum weekly average concentration and one TSS maximum weekly average loading exceedance in May 2021 that on-site staff attributed to excessive wet weather. One TSS maximum weekly average loading exceedance was reported in October 2021 and was attributed to excessive wet weather.

Part II. A. 1. of your permit requires you to comply with its terms and conditions. Any noncompliance with the terms of your permit may subject you to an enforcement action which can include the imposition of penalties. You are required to immediately take all necessary measures to comply with the terms and conditions of your NPDES Permit, specifically those violations identified above.

Within 30 days of receipt of this letter, 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. Failure to respond adequately to this letter may result in formal enforcement action. Please direct your response to this letter to our letterhead address or via email to wwViolationResponse@idem.IN.gov. Any questions should be directed to Nicholas Ream at 219-730-1691 or by email to nream@idem.IN.gov. Thank you for your attention to this matter.

Sincerely,

Rick Massoels, Deputy Director
Northwest Regional Office

Enclosure

NPDES Wastewater Facility Inspection Report

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

NPDES Permit Number:	Facility Type:		Facility Classification:	TEMPO AI ID
IN0037176	Mixed Ownership	Major	III	17381

Date(s) of Inspection: December 15, 2021

Type of Inspection: Compliance Evaluation Inspection

Name and Location of Facility Inspected:
Community Utilities WWTP
9201 East 123rd Avenue
Crown Point IN 46307 County: Lake

Receiving Waters: East Branch of Stoney Run Creek

Permit Expiration Date: 6/1/2023

Design Flow: 1.1MGD

On Site Representative(s):

First Name	Last Name	Title	Email	Phone
Loren	Grosvenor	Area Manager	loren.grosvenor@uiwater.com	815-509-0317

Was a verbal summary of findings presented to the on-site representative? **Yes**

Certified Operator:	Number:	Class:	Effective Date:	Expiration Date:	Email:
Loren Grosvenor	20434	III	7-1-19	6-30-22	loren.grosvenor@uiwater.com

Cyber Security Contact:
Name: Email:

Responsible Official:
Mr. Loren Grosvenor, Area Manager
10966 Four Seasons Place, Suite 100
Crown Point, Indiana 46307

Permittee: Community Utilities of Indiana, Inc.
Email: loren.grosvenor@uiwater.com
Phone: 815-509-0317
Fax:
Contacted? Yes

INSPECTION FINDINGS

- ○ Conditions evaluated were found to be satisfactory at the time of the inspection. (5)
- ○ Violations were discovered but corrected during the inspection. (4)
- ○ Potential problems were discovered or observed. (3)
- ● Violations were discovered and require a submittal from you and/or a follow-up inspection by IDEM. (2)
- ○ Violations were discovered and may subject you to an appropriate enforcement response. (1)

AREAS EVALUATED DURING INSPECTION

(S = Satisfactory, M = Marginal, U = Unsatisfactory, N = Not Evaluated

S	Receiving Waters	S	Facility/Site	S	Self-Monitoring	S	Compliance Schedules
S	Effluent	M	Operation	S	Flow Measurement	N	Pretreatment
U	Permit	M	Maintenance	M	Laboratory	M	Effluent Limits Compliance
M	Collection System	S	Sludge	S	Records/Reports	N	Other:

DETAILED AREA EVALUATIONS

Receiving Waters:

S 1. The receiving stream was visibly free of excessive deposits of settled solids, floating debris, oil, scum, or billowy foam.

Comments:
The receiving stream was free of notable algae or solids as viewed from 123rd Avenue. Thin foam was visible at the outfall, but broke up within 10 feet of the discharge pipe.

Effluent:

S 1. Final 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?

U 3. Receiving waters and Facility Description in the permit reflect actual conditions at the facility.
N 4. The permit has been properly transferred if there is a new owner.

Comments:
Part II. A. 3 of the permit requires, in accordance with 327 IAC 5-2-8(4) the permittee to furnish any information that it knows or has reason to believe would constitute cause for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. The permit was given an overall rating of unsatisfactory because the comminutor listed within the permit was removed from the facility. Either the equipment will have to be returned to service or the permit will have to be modified to remove the treatment equipment.

Collection System:

N 1. CSO's were found to be adequately monitored and maintained.
M 2. There were one maintenance-related (clogged or blocked lines) overflow events in last 12 months.
S 3. There were zero hydraulic (I&I) overflow events in last 12 months.
S 4. Facility has met SSO and dry weather CSO reporting requirements
S 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.
M 7. Collection system maintenance activities appeared to be adequate.

Comments:
The Collection System evaluation generated a marginal rating. The facility is currently on a Early Warning Sewer Ban list due to hydraulic overloading. A review of the last 12 months flows indicted a twelve month average of 79.5% capacity with three months over 90%, one of which was over 100% at 108%. Mr. Grosvenor indicated this was due to lining within the collection system and sump pump inspections and disconnections.

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.
S 4. Facilities and equipment did not appear beyond their useful life.
5. List any safety concerns:

Comments:
It was noted that the facility has a standby generator that is tested on a regular basis. The facility grounds appeared to be well maintained.

Operation:

M 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:
The facility utilizes three treatment trains that operate in parallel. The package plant treatment train, which treats approximately 50% of the flow, contains an aeration tank and clarifier. The North Battery, which treats approximately 20% of the flow, utilizes two aeration tanks and one clarifier. The South Battery, which treats approximately 30% of the flow, utilizes four aeration tanks and one clarifier. All three trains combine prior to entering the chlorine contact/chlorination/de-chlorination tank.

Operation was rated as marginal. During the inspection, it was observed that one of the aeration tanks for the South Battery had an air leak within the tank causing the wastewater to be heavily agitated. Community Utilities personnel were aware of the air leak and were attempting to determine ways to correct the air leak. Shear flock appeared minimal to non-existent as solids were minimal in the secondary clarifier.

Maintenance:

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

M 2. Facility maintenance activities appeared to be adequate.

Comments:
Maintenance was rated as marginal due to the air leak as noted under the Operation category. Please refer to that category for more information.

Maintenance is logged into a book kept within the operations/lab building.

Sludge:

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

Comments:
A records review during the inspection, specifically for January 2021 to July 2021, showed adequate wasting, handling, and disposal of sludge. Sludge records indicated sludge is land applied by Wealing Brothers under Land Application Permit Number INLA 101.

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.

The influent and effluent automatic samplers had clean tubing. The temperatures, based upon thermometers in water, were 0.5 and 4.5 degrees Celsius respectively and were located at representative locations.

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, and document that monitoring equipment has been calibrated at the frequency required in the permit.

N 3. The stream flow gauging station is calibrated as often as necessary to provide accurate and reliable data, but at least once every 12 months.

N 4. A copy of the stream flow calibration curve or table is submitted to IDEM (OWQ Compliance Data Section) no later than October 1 of each year.

Comments:
The effluent flow meter was last calibrated by Phoenix Innovations on May 26, 2021.

Laboratory:

The following laboratory records were reviewed:

pH Bench Sheets TSS Bench Sheets Contract Lab Reports

Chain-of-Custody

N 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.

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

Comments:
The bench sheets reviewed during the inspection, specifically for August 5, 2021 to December 7, 2021 appeared to be accurate and complete.

The Laboratory evaluation generated a marginal rating. A review of the contract laboratory reports indicated some of the results under CBOD had codes of K9, with a further indication that the dissolved oxygen (D.O.) reading for the sample was greater than 9.0 mg/L. The D.O. should be lowered prior to set up of the samples.

Records/Reports:

The following records/reports were reviewed:

DMRs for the period of November 2020 to October 2021 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.
S 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:

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

Comments:
The facility is on schedule with all requirements of the Schedule of Compliance in the permit with the phosphorus limit accepted and in effect since June 1, 2021.

Pretreatment:

N 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 permitee was found to enforce the Sewer Use Ordinance (SUO) and the Enforcement Response Plan (ERP).
N 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.

Effluent Limits Compliance:

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

DMRs for the period of November 2020 to October 2021 were reviewed as part of the inspection.

Yes 2. Were violations noted during the review of DMRs?

Comments:
The Effluent Limits Compliance area was rated marginal due to self-reported violations of the limits detailed in Part I. A. of the NPDES Permit. Review of DMRs revealed one TSS maximum weekly average concentration and one TSS maximum weekly average loading exceedance in May 2021 that on-site staff attributed to excessive wet weather. One TSS maximum weekly average loading exceedance was reported in October 2021 and was attributed to excessive wet weather.

IDEM REPRESENTATIVE

Inspector Name:	Email:	Phone Number:

Nicholas Ream	nream@idem.IN.gov	219-730-1691

Other staff participating in the inspection:

Name(s)	Phone Number(s)
Ramelito Biscocho	

IDEM MANAGER REVIEW

IDEM Manager:	Date:
Rick Massoels	12/16/2021

Inspection Photographs

Facility:
Community Utilities WWTP

Photographer:
Nicholas Ream

Date: 12/15/2021 Time: 12:00:00 PM

Others Present:
Loren Grosvenor, Steve McAfee, Ramelito Biscocho

Location/Description:
Northwest view of an air leak in the northeast aeration tank of the South Battery.

Utilities, Inc.®

IN0037176
Lake Co.

January 14, 2022

Via Email to: nream@idem.IN.gov
Mr. Nicholas Ream

Dear Mr. Ream:

1. CUII is currently waiting for a response from IDEM permitting department on Permit revisions to remove the comminutor and include a second bar screen. Once the revised Permit is received, a copy will be sent to you for review.

2. CUII continues to address I&I through a comprehensive I&I reduction program outlined below.
   - Cleaning and Televising 10% of the collection system annually. Consulting engineers are reviewing this data, and all identified defects are categorized by severity and repair priority.
   - Home Inspections program to identify and correct any illegal connections to the sanitary system.
   - Sewer Capital Program-Point repairs and sewer lining projects are completed annually to repair defects identified from sewer cleaning and televising data. Manholes are inspected and, as needed, are repaired annually.

3. South Battery aeration leak will be corrected spring of 2022. CUII has plans to block flows to and from the tank in order to pump aeration down to make repairs.
4. CUII discussed and reviewed CBOD sampling with Microbac laboratory and they will be making corrections prior to sample setup.
5. CUII has plans to construct a larger 1.6 MGD WWTP to handle wet weather flows by means of excess flow basins and storm mode. CUII was denied approval to construct the new WWTP consisting of a 1.6 MGD facility. CUII continues its efforts to reduce I&I to help manage wet weather flows and practices diverting flows within the plant during rain event to help manage solids loss.

Sincerely,

Loren Grosvenor

Digitally signed by Loren Grosvenor
DN: C=US, O=Utilities Inc, CN=Loren Grosvenor, E=Loren.Grosvenor@corixgroup.com
Reason: I am the author of this document
Location: loreng1981
Date: 2022.01.14 12:27:48-06'00'
Foxit PDF Editor Version: 11.1.0

Loren Grosvenor
Area Manager
Community Utilities of Indiana, Inc.
10996 Four Seasons Pl. Suite 100G
Crown Point, IN 46307
C. 815-509-0317
P. 219-226-1630
F. 219-226-9198
Lggrosvenor@uiwater.com

COMMUNITY UTILITIES OF INDIANA, INC,

RESPONSE TO THE OUCC

DATA REQUEST OUCC 10.01

Witness Responsible:	Loren Grosvenor
Title:	State Operations Manager
Date Received:	April 12, 2022
Docket No.:	45651

OUCC 10.01

Please state the design period, average daily flow, and peak hourly design flow for the Headworks project. Please also provide copies of reports, studies, customer forecasts, population forecasts, and wastewater volume projections that CUII relied on to establish the Headworks' flow capacities.

Response:

The Headworks facility will be designed for a peak flow of 14 MGD. The previous Headworks design was submitted in Cause No. 45389 and was designed for a peak flow of 14 MGD. CUII is repurposing the design submitted in Cause No. 45389, which was provided as Petitioner's Exhibit SC-46D Expansion Plans –2. A copy of that exhibit is attached as "OUCC 10.01". However, the final design has not yet been completed given that the project will not be completed until 2023. CUII expects spending on this project to begin in October of 2022.

Attachment:

OUCC 10.01.pdf

Date Response Provided: April 22, 2022

COMMUNITY UTILITIES OF INDIANA, INC,

RESPONSE TO THE OUCC

DATA REQUEST OUCC 10.02

Witness Responsible:	Loren Grosvenor
Title:	State Operations Manager
Date Received:	April 12, 2022
Docket No.:	45651

OUCC 10.02

Has CUII evaluated alternatives for the proposed $2,296,298 Headworks project? If so, please provide a copy of the alternatives evaluation report or study.

Response:

Yes. Alternatives were proposed in Cause No. 44724 and Cause No. 45389. Reports and other information regarding those alternatives can be found in the filings in those proceedings. In addition, screening systems were compared. In Cause No. 45389, Baxter & Woodman prepared the Screening Systems Comparison technical memorandum, which was provided as Attachment SC-26, comparing the Headworks Bar Screen and the Hydro-Dyne Center Flow Screen. A copy of this document is attached as "OUCC 10.02".

Attachment:

OUCC 10.02.pdf

Date Response Provided: April 22, 2022

COMMUNITY UTILITIES OF INDIANA, INC,

RESPONSE TO THE OUCC

DATA REQUEST OUCC 10.03

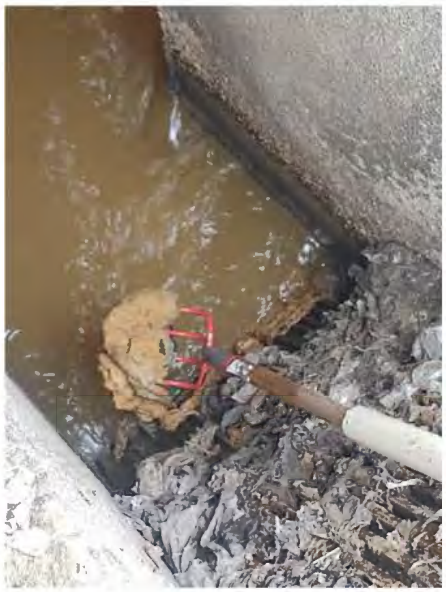
Witness Responsible:	Steve Lubertozzi; Loren Grosvenor
Title:	President; State Operations Manager (respectively)
Date Received:	April 12, 2022
Docket No.:	45651

OUCC 10.03

Has CUII estimated the annual operations and maintenance ("O&M") costs for the new Headworks? If so, please provide a copy of the O&M estimates and provide the basis for all data and assumptions CUII relied on for the O&M estimate.

Response:

No. Any additional O&M costs related to the Headworks would not be incurred until the Headworks is in service, and the anticipated in-service date for the Headworks is September 2023. Therefore, these costs would be outside of the test year and are not included in the revenue requirement in this proceeding. However, CUII expects there to be some time savings related to the installation of the new Headworks. The current Headworks require manual cleaning of the bar screen, which is labor-intensive, as further described in the response to Data Request No. 10.04. Below are images of the required manual cleaning process, which is also a potential safety hazard for CUII's employees



Attachment:

N/A

Date Response Provided: April 22, 2022

COMMUNITY UTILITIES OF INDIANA, INC,

RESPONSE TO THE OUCC

DATA REQUEST OUCC 10.04

Witness Responsible:	Loren Grosvenor
Title:	State Operations Manager
Date Received:	April 12, 2022
Docket No.:	45651

OUCC 10.04

Has CUII conducted a life cycle cost analysis for Headworks alternatives? If so, please provide a copy of the life cycle cost analysis.

Objection:

Petitioner objects to the foregoing Data Request on the grounds that it seeks information that is confidential and proprietary. Subject to and without waiving the foregoing objection, Petitioner submits the response set forth below.

Response:

CUII has not completed a life cycle cost analysis for the entire Headworks facility, but has completed a life cycle cost analysis for the screens. Documents containing that analysis are attached as attachments “OUCC DR 10.04 A (CONFIDENTIAL)”, “OUCC DR 10.04 B (CONFIDENTIAL)”, and “OUCC DR 10.04 C (CONFIDENTIAL)”. CUII expects labor reduction without manual bar screens providing operations additional time to maintain treatment plant and equipment. CUII also expects reduced OT during rain events and/or the ability to properly maintain treatment during rain events that occur after hours and weekends. The addition of automatic screening will ultimately reduce the amount of rags entering WWTP plugging pipes and pumps, reducing O&M cost. These factors are difficult to quantify.

As shown in the photos below, the current manual screens create plugging issues:

Attachments:

OUCC DR 10.04 A (CONFIDENTIAL).pdf
OUCC DR 10.04 B (CONFIDENTIAL).pdf
OUCC DR 10.04 C (CONFIDENTIAL).pdf

Date Response Provided: April 22, 2022

COMMUNITY UTILITIES OF INDIANA, INC,

RESPONSE TO THE OUCC

DATA REQUEST OUCC 10.05

Witness Responsible:	Loren Grosvenor
Title:	State Operations Manager
Date Received:	April 12, 2022
Docket No.:	45651

OUCC 10.05

Please state the current design status of the Headworks project.

Response:

Petitioner incorporates herein by reference its response to Data Request No. 10.01.

Attachment:

N/A

Date Response Provided: April 22, 2022

COMMUNITY UTILITIES OF INDIANA, INC,

RESPONSE TO THE OUCC

DATA REQUEST OUCC 10.06

Witness Responsible:	Loren Grosvenor
Title:	State Operations Manager
Date Received:	April 12, 2022
Docket No.:	45651

OUCC 10.06

If a construction permit application for the Headworks project has not been submitted to IDEM, please provide the preliminary design summary, preliminary design drawings and the preliminary design specifications and contract documents.

Response:

Petitioner incorporates herein by reference its response to Data Request No. 10.01.

Attachment:

N/A

Date Response Provided: April 22, 2022

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

January 27, 2021

VIA ELECTRONIC MAIL

Ms. Amanda Streicher, Senior Project Engineer
Baxter &, Woodman, Inc.
1548 Bond St. Suite 103
Naperville, IL 60563

Dear Ms. Streicher:

Re: Indiana Code 13-18-26 Requirements for Expansion of the Community Utilities Wastewater Treatment Plant
Lake County

This letter is in follow up to your preliminary effluent limitations (PELs) letter dated September 20, 2019 for a proposed expansion of the Community Utilities Wastewater Treatment Plant (WWTP). As indicated in your original request, the construction activities will result in a WWTP with a design rating of 1.6 MGD with discharge to East Branch Stony Run. This Office is providing notification that suppemental information will be required post construction activities for any subsequent NPDES permit modification or renewal applications.

Indiana Code 13-18-26 requires the permit applicant to certify that the following documents have been prepared and completed for new facilities and/or facility expansions with a design capacity above 0.10 MGD:

· A Life Cycle Cost-Benefit Analysis, as described in IC 13-18-26-3;
· A Capital Asset Management Plan, as described in IC 13-18-26-4; and
· A Cybersecurity Plan, as described in IC 13-18-26-5.

The certification of completion must be submitted to IDEM along with the NPDES permit application, and must be notarized. IDEM will not issue a permit to an applicant that is subject to IC 13-18-26 if the required certification is not included with the application packet, as required by IC 13-18-26-1(b).

The plans and analyses must be reviewed and revised (as necessary) at least once every five years. A new certification must be submitted to IDEM (with the NPDES renewal application) if any plan or analysis is revised during the five-year review.

If there are any questions regarding the Indiana Code 13-18-26 requirements or NPDES permit requirements, please feel free to contact Evan Fall at efall@idem.IN.gov or 317/234-3840.

Sincerely,

Leigh Voss

Leigh Voss, Chief
Municipal NPDES Permits Section
Office of Water Quality

Enclosures
cc: Mike Miller, Regional Manager
Loren Grosvenor, Certified Operator

EXAMPLE

IC 13-18-26 Certification of Completion
Wastewater

Indiana Code 13-18-26 requires the permit applicant to certify that the following documents have been prepared and completed:

- A Life Cycle Cost-Benefit Analysis, as described in IC 13-18-26-3;
- A Capital Asset Management Plan, as described in IC 13-18-26-4; and
- A Cybersecurity Plan, as described in IC 13-18-26-5.

The certification of completion must be submitted to IDEM along with the permit application, and must be notarized. The plans and analyses must be reviewed and revised (as necessary) at least once every five years. A new certification must be submitted to IDEM (with the NPDES renewal application) if any plan or analysis is revised during the five-year review.

I hereby certify that I am an authorized representative for the permit applicant and pursuant to IC 13-18-26, the permit applicant has developed and completed a life cycle cost-benefit analysis; a capital asset management plan; and a cybersecurity plan that meet the requirements of IC 13-18-26-3, IC 13-18-26-4, and IC 13-18-26-5. To the extent required under IC 13-18-26-6, the plans and analyses are available for public inspection.

_____	_____	_____
Permit Applicant (Printed)	Signature	Date
_____	_____	_____
Authorized Representative (Printed)	Signature	Date
_____	_____	
Notary (Printed)	Signature	

My Commission Expires: _____

(seal)

IC 13-18-26 Chapter 26. Permit and Permit Application Conditions for Water and Wastewater Treatment Plants

IC 13-18-26-1 Certificate of completion required

Sec. 1. (a) Except as provided in subsection (c), a permit required under IC 13-18-16 for the operation of a public water system may not be issued unless the application contains the certification of completion required under section 2 of this chapter.

(b) Except as provided in subsection (c), the department may not issue a permit required under environmental management laws for the discharge from a wastewater treatment plant, as defined in IC 13-11-2-258(b), unless the application contains the certification of completion required under section 2 of this chapter.

(c) The requirement of a certification of completion under section 2 of this chapter does not apply to the following:

(1) A noncommunity public water system that has fewer than fifteen (15) service connections used by year-round residents.

(2) A noncommunity public water system that regularly serves fewer than twenty-five (25) year-round residents.

(3) A permit for the modification or expansion of a drinking water treatment plant that does not increase system design capacity.

(4) A permit for a wastewater treatment plant with an average design flow of not more than one hundred thousand (100,000) gallons per day.

(5) A permit for the modification or expansion of a wastewater treatment plant that does not increase average design flow.

(6) The renewal of an NPDES permit for the discharge from a wastewater treatment plant that does not include a modification or expansion as described in subdivision (5).

As added by P.L.126-2018, SEC.6. Amended by P.L.15-2019, SEC.12.

IC 13-18-26-2 Certification that documents have been prepared

Sec. 2. A permit described in section 1(a) or 1(b) of this chapter may not be issued unless the applicant submits, along with the permit application, a certification that all of the following documents have been prepared and are complete under the requirements of this chapter:

(1) A life cycle cost-benefit analysis, as described in section 3 of this chapter.

(2) A capital asset management plan, as described in section 4 of this chapter.

(3) A cybersecurity plan, as described in section 5 of this chapter.

As added by P.L.126-2018, SEC.6. Amended by P.L.15-2019, SEC.13.

IC 13-18-26-3 Life cycle cost-benefit analysis

Sec. 3. A life cycle cost-benefit analysis must include a comparison of the alternatives of:

(1) meeting the water supply or wastewater service needs of the community or area served or proposed to be served through the operation of the water and wastewater treatment plant, as:

(A) owned and operated; or

(B) proposed to be owned and operated;

according to the terms of the permit application; and

(2) meeting the water supply or wastewater service needs of the community or area

served or proposed to be served through one (1) or more other potential means.
As added by P.L.126-2018, SEC.6.

IC 13-18-26-4 Capital asset management plan

Sec. 4. A capital asset management plan must include all of the following:

(1) A plan to annually review infrastructure needs of the water or wastewater treatment plant.

(2) A detailed engineering analysis of asset conditions and useful life, to be used to develop an infrastructure inspection, repair, and maintenance plan.

(3) An analysis of customer rates necessary to support the capital asset management plan, including emergency repairs.

(4) A certification that the water or wastewater treatment plant has:

(A) a certified operator;

(B) a corporate officer or system manager; and

(C) access to an engineer, either on staff or by contract.

As added by P.L.126-2018, SEC.6.

IC 13-18-26-5 Cybersecurity plan

Sec. 5. A cybersecurity plan must provide for the protection of the water or wastewater treatment plant from unauthorized use, alteration, or destruction of electronic data.
As added by P.L.126-2018, SEC.6.

IC 13-18-26-6 Completion, periodic revision, and public disclosure of analysis and plans

Sec. 6. (a) The analyses and plans described in sections 3, 4, and 5 of this chapter must be:

(1) complete under the requirements of this chapter at the time an application for a permit described in section 1(a) or 1(b) of this chapter is submitted;

(2) reviewed and revised at least once every five (5) years, for as long as the permit holder operates the water treatment plant or wastewater treatment plant; and

(3) except for customer specific data, including information excluded from public access under IC 5-14-3-4(a), or for a cybersecurity plan required under section 5 of this chapter, made publicly available.

(b) A certification that the analyses and plans described in sections 3, 4, and 5 of this chapter are complete under the requirements of this chapter must be submitted to the department:

(1) under section 2 of this chapter at the time an application for a permit described in section 1(a) or 1(b) of this chapter is submitted; and

(2) at least once every five (5) years after an application for a permit described in section 1(a) or 1(b) of this chapter is submitted, when the analysis and plans are reviewed and revised.

(c) A certification submitted to the department under this chapter must be notarized.
As added by P.L.126-2018, SEC.6. Amended by P.L.15-2019, SEC.14.

IC 13-18-26-7 Denial of permit application for failure to include notarized certification

Sec. 7. Failure to include a notarized certification with an application for a permit described in section 1(a) or 1(b) of this chapter constitutes grounds for denial of the permit application.
As added by P.L.126-2018, SEC.6. Amended by P.L.15-2019, SEC.15.

COMMUNITY UTILITIES OF INDIANA, INC,

RESPONSE TO THE OUCC

DATA REQUEST OUCC 10.23

Witness Responsible:	Loren Grosvenor
Title:	State Operations Manager
Date Received:	April 12, 2022
Docket No.:	45651

OUCC 10.23

Does CUII currently have flow monitors in the upstream influent sewers into the Twin Lakes wastewater plant? If so, please provide a copy of the flow monitoring report, study, or analysis made by or on behalf of CUII since January 1, 2020.

Response:

Yes. CUII had eight flow monitors in collection system for the CSEP Phase 1 design in Cause No. 45389. Since this design was completed, several meters have been removed for sewer cleaning and the rest of the flow meters have been deemed to be removed for calibration and repairs. No flow monitoring studies have taken place since January 1, 2020.

Attachment:

N/A

Date Response Provided: April 22, 2022

Similar Lift Station Project Experience

The following pages provide a brief listing of several of the sanitary lift station projects which have been performed by RHMG. Detailed project descriptions and references are provided for a limited number of projects following the summary tables.

RHMG ENGINEERS, INC.
WASTEWATER PUMP STATION AND FORCEMAIN DESIGN PROJECTS SUMMARY

Project	Station Type	Capacity (GPM)	Forcemain Dia./Length (ft)
Happy Valley Road Lift Station Twin Lakes Utilities, Inc. Crown Point, IN	Submersible	750	12"/18,300
Twin Lakes Lift Station C Re-Route & Rehab Twin Lakes Utilities, Inc.	Submersible	600	12”/18,300
Fuller Creek Pump Station – Rock River Water Reclamation District	Dry Pit	Initial: 1,070 Phase 1: 3,500 Ultimate: 9,300	Two Parallel 12”/12,000 24”/12,000
Northeast Central Pump Station Expansion, LCPWD, Lake County, IL	Dry Pit Submersible	19,400	Two Parallel 24”/2,620
Lift Station No. 20 - Lakes Region Sanitary District, Ingleside, IL	Submersible	100	4”/2,190
Lift Station No. 21 - Lakes Region Sanitary District, Ingleside, IL	Submersible	275	6”/1,170
S.O.C. Pump Station Expansion Naperville, IL	Dry Pit Submersible	16,700	20”/3,280
Lake Zurich Wastewater Transfer Station Lake Zurich, IL	Submersible	12,500	36”/15,300
NCT Pump Station Vernon Hills, IL	Dry Pit	10,400	Two Parallel 16”/3,464
Volo Village Road Lift Station Lakes Region Sanitary District	Submersible	Phase 1: 1,600 Phase 2: 4,000	Two Parallel 16”/9,730
Big Hollow Lift Station Lakes Region Sanitary District	Submersible	Phase 1: 1,300 Phase 2: 4,600	Two Parallel 16”/5,550
Blackberry Creek Lift Station No. 2 Elburn, IL	Submersible	Phase 1: 1,166 Phase 2: 1,527 Ultimate: 4,700	12”/8,585
Raw Sewage Wet Weather Pump Station Dwight, IL	Submersible	4,900	20”/70
Kenosha Strawberry Creek Lift Station Kenosha Water Utility	Submersible	Phase 1: 1,042 Phase 2: 1,562	12”/3,972
Beach Park Lift Station No. 2 Mundelein, IL	Submersible	1,200	10”/2,650
Meadowbrook Lift Station Lake in the Hills Sanitary District, IL	Submersible	3,700	Two Parallel 10"/4,215
Woods Lift Station Upgrading Wood Dale, IL	Dry Pit Prefabricated/ Submersible	700	8”/2,276
Northwest Pump Station Lake Zurich, IL	Submersible	5,500	24"/10,565

RHMG ENGINEERS, INC.
WASTEWATER PUMP STATION AND FORCEMAIN DESIGN PROJECTS SUMMARY
(Continued)

Project	Station Type	Capacity (GPM)	Forcemain Dia./Length (ft)
South of Silver Glen Pump Station, Otter Creek Water Reclamation District, South Elgin, IL	Submersible	275	6"/2,947
Northwest Pump Station Modifications Naperville, IL	Submersible	7,538	N.A.
Route 22 Lift Station, Lake County Public Works Department	Submersible	625	10"/2,075
Blackberry Creek Lift Station No. 1 Elburn, IL	Submersible	472	8"/2,055
Gartner/Modaff Pump Station Naperville, IL	Dry Pit/ Prefabricated/ Submersible	400	6"/47
Century Hills Pump Station Naperville, IL	Dry Pit/ Prefabricated/ Submersible	200	N.A.
Waste Backwash Pump Station Otter Creek Water Reclamation District South Elgin, IL	Submersible	200	6"/450
Four Winds Lift Station, Twin Lakes Utilities Inc., Crown Point, IN	Submersible	750	12"/6,965
Liberty Street Lift Station West Dundee, IL	Submersible	490	6"/40
North Libertyville Estates Lake County, IL	Submersible	230	8"/4,750
Knollwood Lift Station Lake Zurich, IL	Submersible	650	8"/1,437
Mionske Lift Station Lake Zurich, IL	Submersible	450	6"/260
Fairview Lift Station Lombard, IL	Submersible	2,700	16"/9,400
Forest Avenue Lift Station Expansion Lakes Region Sanitary District, Ingleside, IL	Submersible	622	12"/3,520
Blackhawk Lift Station Expansion Lakes Region Sanitary District, Ingleside, IL	Submersible	1,500	10"/15
111th Street Pump Station Naperville, IL	Submersible	4,000	18"/84
Ela Township Lift Station Lake County, Illinois	Dry Pit Prefabricated	1,180	10"/7,912'
North Park Pump Station Rock River Water Reclamation District	Dry Pit	5,600	N.A.
South Silver Glen Pump Station Otter Creek Water Reclamation District	Submersible	275	6”/2,947

PROJECT: Twin Lakes Utilities, Inc.
Golf Course Surcharge Relief – Lift Station L

CLIENT: Utilities, Inc.
10996 Four Seasons Place, Ste. 100G
Crown Point, IN 46307

CLIENT CONTACT: Mr. Loren Grosvenor
Area Manager
Telephone: 815/509-0317

PROJECT DESCRIPTION:

In response to continued occurrences of manhole surcharges and SSOs within the Lake of the Four Seasons sanitary sewer collection system (despite I/I reduction efforts), RHMG was retained by Utilities, Inc. to evaluate alternatives to transport the excess wet weather flows to the WWTP. The primary trunk line (including lift stations B and D) was undersized based on the observed flows. Redirecting flows between sub-basins was not a valid option since it was the common trunk line that was the system bottleneck. Six alternatives were identified and evaluated.

The selected alternate was recommended due to its relatively low construction cost, potential to serve future commercial users along Randolph Street and its minimal disturbance to existing residents internal to the subdivision.

RHMG subsequently provided design and permitting services for the new, submersible Happy Valley Road Lift Station (Lift Station L) including two 750 gpm pumps and 18,300 lineal feet of 12-in diameter forcemain. The forcemain was designed to accommodate future development of 3,620 P.E. along the Randolph Street corridor. Unique design considerations included complex hydraulics based on the forcemain profile and future additional lift stations to be connected along Randolph Street and critical construction schedules and construction/restoration requirements for the section of the forcemain through the existing golf course.

PROJECT:	Twin Lakes Utilities, Inc. Water System Improvements
CLIENT:	Twin Lakes Utilities, Inc. 10996 Four Seasons Place Crown Point, IN 46307
CLIENT CONTACT:	Mr. Loren Grosvenor Area Manager Telephone: 815/509-0317
PROJECT:	Twin Lakes Lift Station C Re-Route and Rehabilitation

PROJECT DESCRIPTION:

Twin Lakes Utilities, Inc. is a private water and sewer utility serving approximately 3,100 customers in the Lake of the Four Seasons subdivision near Crown Point, Indiana. The system has experienced several sanitary sewer overflows over the years and Twin Lakes Utilities, Inc. has implemented a number of programs to reduce infiltration and inflow in the system and to offload flows tributary to several overloaded sanitary sewers.

The goal of this project was to re-route the discharge from an existing lift station, Lift Station C, from an existing, overloaded gravity sanitary sewer to an existing forcemain which has sufficient capacity to accommodate the diverted flows. Re-routing of the Lift Station C discharge requires replacement of the Lift Station C pumps due to the increased forcemain length and increased pumping head. The pumping hydraulics for lift station is complicated due to multiple pump stations (Lift Stations C, L, K) discharging to the forcemain. Pumping characteristics will change depending on the number of pump stations operating at any given time. RHMG designed an overhaul of the station's mechanical and electrical systems, including the addition of a new valve vault for the submersible station, due to the age and condition of the existing equipment and the increased pumping capacity and head.

This project was not constructed. The existing design will be modified as part of the Phase 1 Sanitary Sewer System Improvements.

Data Request OUCC DR 6 - 05

45389, CUII
09/14/2020

Please explain why CUII is no longer proposing to interconnect the Lift Station C force main with the Lift Station L force main as originally proposed.

Objection:

Response:

An explanation for why the Lift Station C force main cannot be tied into Lift Station L force main was provided on pg 5 of the Sanitary Sewer System Improvements report, prepared by RHMG, dated August 27, 2019, provided as Attachment SC-18 with Mr. Carbonaro's Direct Testimony. In summary, RHMG recommended that the Company reserve capacity in the Lift Station L for potential future upgrades to Lift Station L, as well as potential hydraulic issues if Lift Station L, C, and K were tied into the Lift Station L force main. Further, RHMG identified that diversion of Lift Station B rather than Lift Station C would provide the most benefit to resolve the current conveyance restrictions of the Lake Shore Drive sewers. The Company has studied several alternatives for collection system improvements and determined that the proposed improvements explained in Mr. Carbonaro's Direct Testimony are the most appropriate solution to reduce basement backups and manhole overflows.

STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

PETITION OF COMMUNITY UTILITIES OF INDIANA, INC. FOR APPROVAL OF (1) EXPENDITURES FOR CONSTRUCTION OF ADDITIONS AND IMPROVEMENTS TO PETITIONER'S WASTEWATER UTILITY PROPERTIES, AND (2) THE INCLUSION OF THE VALUE OF SUCH NEW FACILITIES, INCLUDING PLAN DEVELOPMENT AND IMPLEMENTATION COSTS, IN PETITIONER'S RATE BASE IN FUTURE CASES.	)	**CAUSE NO. 45389**

PETITIONER'S SUBMISSION OF DIRECT TESTIMONY OF SEAN CARBONARO

VOLUME 5

RHMG ENGINEERS, INC.
975 Campus Drive, Mundelein, IL 60060
847.362.5959 | Fax 847.362.0864
www.rhmg.com

August 14, 2019
Revised August 27, 2019

Mr. Mike Miller
Community Utilities of Indiana, Inc.
10996 Four Seasons Place, Suite 100G
Crown Point, IN 46307

RE: Community Utilities of Indiana – Twin Lakes
Sanitary Sewer System Improvements
Project No. 21901030

Dear Mike:

This letter is written as a follow-up to our July 25, 2019 letter and our subsequent teleconference with CUII on July 31, 2019. As you recall, in our July 25, 2019 letter, RHMG recommended a revised approach to the construction of improvements to the CUII sewer system. This revised approach is a result of findings of the flow monitoring conducted in the spring of 2019 and additional detailed review of historical basement backups and sanitary sewer overflow date, historical pump run times and sewer slope and capacity information. The revised approach included in our July 25, 2019 letter consisted of the following:

1. Postpone construction of Lift Station O. Based on flow monitoring and historical data, wet weather flows are currently being adequately conveyed by Lift Station B with two pumps operating.

2. Upgrade Lift Station B to the maximum pump capacity allowed by the current lift station wetwell. Based upon preliminary sizing, new pumps, each capable of pumping 1,000 gpm can be installed in the existing wet well. Install variable frequency drives to reduce pumped flows under normal dry weather conditions.

3. Upgrade Lift Station C to the proposed original Phase 1 capacity of 700 gpm.

4. Reduce flows tributary to the West Lake Shore Drive sewer. This will help alleviate to some extent both “capacity” and “conveyance” issues in the sewer. This flow reduction would be accomplished by **either**:

    a. Connecting the Lift Station B discharge to a new forcemain constructed along West Lake Shore Drive to Lift Station D, or

    b. Connect the Lift Station C discharge to a new forcemain constructed along West Lake Shore Drive to Lift Station D.

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Note that the proposed forcemain from Lift Station B/C to Lift Station D would be sized to accommodate future addition of flows from the unconnected forcemain (B or C) if needed in the future.

5. Re-prioritize upgrading of the capacity of Lift Station D from Phase 2 to Phase 1.

    a. Construct a new Lift Station D as was originally contemplated for Phase 2.

    b. For better control of velocities in piping which could cause solids deposition and increased odors, it is recommended that the new Lift Station C or B forcemain discharge to the Lift Station D wetwell. Lift Station D pumps can be equipped with variable frequency drives to maintain scouring velocities in the forcemain to the wastewater treatment plant while allowing more moderated flows to the plant under dry weather flow conditions.

6. Continue to conduct flow monitoring and examine infiltration and inflow reduction measures in basins tributary to Lift Stations L and F. Consider upgrades to Lift Station F (Phase 2) and Lift Station L (Phase 3), as deemed warranted.

7. Continue to monitor performance of Lift Stations B, C, and D in Phase 2. Consider re-routing of the remaining unconnected forcemain (Lift Station B or C) to the Lake Shore Drive forcemain in Phase 3 if deemed warranted based on continued overflows and surcharging.

8. Continue to assess capacities of gravity sewers to the wastewater treatment plant along 123rd Avenue following additional flow monitoring and elimination of infiltration and inflow. Consider possible replacement in Phase 2 as deemed warranted.

Based upon our analysis of the flow monitoring and historical data, we believe that this revised approach would provide greater relief in terms of the number of basement backups and sewer overflows observed in the system.

Analysis of Whether to Connect Lift Station B or Lift Station C to the New B/C Forcemain Along West Lake Shore Drive in Phase 1

As indicated above in the revised approach, a new forcemain would be constructed along West Lake Shore Drive in Phase 1 from either Lift Station B or C to Lift Station D. Diversion of Lift Station B or C flows in Phase 1 would help offload the overloaded existing gravity sewer along West Lake Shore Drive. Subsequent to our July 25, 2019 letter, additional investigation and analysis was performed to determine whether connection of Lift Station B or Lift Station C in

RHMG ENGINEERS, INC.

Mr. Mike Miller
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Phase 1 to this new forcemain would provide the greatest benefit in relief of basement backups and sewer overflows. ***As a result of this investigation, RHMG recommends connecting Lift Station B to the West Lake Shore Drive forcemain in Phase 1.***

The current capacity of Lift Station B with both pumps operating is 967 gpm per RJN field tests. Lift Station B has operated for several hours with both pumps during wet weather flow conditions. The current capacity of Lift Station C with both pumps operating is 375 gpm per RJN. *Connecting LS B to the Lift Station B/C forcemain in Phase 1 will offload existing Lake Shore Drive sewers to a greater extent and will have a greater benefit in addressing current conveyance restrictions in Phase 1.*

The existing Lift Station C forcemain (extending from the lift station to the intersection of Kingsway Drive and Sunrise Drive) is undersized and is in poor condition; the existing forcemain will be replaced as part of Phase 1. If Lift Station C were to be connected to the Lift Station B/C forcemain in Phase 1, an additional 1,095 feet of *additional* 8-inch forcemain for LS C would need to be constructed from the current LS C discharge location at Kingsway/Sunrise to West Lake Shore Drive at an estimated cost of $196,000 (including restoration and 15% contingency). In addition, the sewer immediately downstream of Lift Station B has a capacity less than 1,000 gpm (1.44 mgd). If an upgraded Lift Station B were to connect to the existing Lake Shore Drive gravity sewer, an estimated *minimum* of 330 lf of new forcemain would be needed to avoid the bottleneck (more forcemain piping would be required if all surcharging is to be avoided). This would result in a minimum additional cost of $69,000 (including restoration and 15% contingency). Connection of an upgraded Lift Station B to the Lake Shore Drive forcemain would therefore save a minimum of $265,000 in Phase 1.

Recommendations are as follows:

- Upgrade Lift Station B to 1,000 gpm. Pumps are available which can fit in the existing 6-foot diameter Lift Station B wet well and pump 1,000 gpm in the new forcemain to LS D. Pumps will be equipped with variable frequency drives.
- Connect Lift Station B to the B/C Forcemain to Lift Station D in Phase 1
- Size the forcemain along West Lake Shore Drive for the future connection of Lift Station C if needed (12-inch diameter)
- Upgrade Lift Station C to 700 gpm
- Discharge Lift Station C at its current discharge point (the intersection of Kingsway Drive and Sunrise Drive)

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- Replace the existing forcemain from Lift Station C to intersection of Kingsway Drive and Sunrise Drive. (Gravity flow will continue from that point to Lift Station D)

Commentary Regarding the Elimination of the Proposed Interconnection of Lift Station C to the Lift Station L Forcemain

RHMG was previously requested by CUII to design an upgraded Lift Station C and connect it to the existing Lift Station L forcemain. (This project was not constructed.) Improvements to both Lift Station C and Lift Station L would have been required to accommodate the increased pumping heads. The pumping heads and flows under this previous design were as follows: Lift Station C – 600 gpm at 245 feet T.D.H., 72 HP; Lift Station L – 700 gpm at 235 feet T.D.H., 72 HP

The current capacity of Lift Station C with both pumps operating is 375 gpm per RJN. (i.e. the Lake Shore Drive sewer has historically been receiving a maximum flow rate of 375 gpm). Diverting Lift Station C would not significantly address the current *conveyance* restrictions of the Lake Shore Drive sewers. (Diversion of Lift Station B, which has a current pumping capacity of 976 gpm with both pumps operating, is more beneficial as indicated above.) For the above reasons, RHMG previously did not recommend the diversion of Lift Station C to the Lift Station L forcemain for hydraulic relief of the Lake Shore Drive sewer.

In addition, recent studies have indicated that Lift Station L may likely require an increase in pumping capacity in the future:

- During the 2019 Flow Monitoring, a peak hour flow of around 720 gpm was observed at MH 229, which is tributary to Lift Station L. (Note, this peak hour flow was not generated during 10-year design storm conditions. Required design flows will be higher.) There is additional flow tributary to Lift Station L from sewers/forcemains leading from Lift Station A, which is not accounted for in the above measured flows. Per RJN, the pumping capacity of Lift Station A is unknown. They were unable to perform fill and draw tests due to a submerged incoming pipe.

- Per Gasvoda and Associates, Lift Station A is a simplex station with a Barnes $SE11334L pump with a 11.3 hp motor. The duty point is unknown. Estimating from the pump curve where the pump has its highest efficiency point, suggests a nominal capacity for Lift Station A in the range of 400 gpm. Therefore, existing flows to Lift Station L observed during the flow monitoring period could have been around 1,120 gpm (= 720 gpm + 400 gpm).

- RHMG's rudimentary projections for MH 229 based upon the spring, 2019 flow monitoring suggest a 10-year design flow of 1,080 to 1,250 gpm (for 12-hour and 24-hour storm

RHMG ENGINEERS, INC.

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durations). Including Lift Station A flows, suggest potential 10-year design flows of 1,480 gpm to 1,650 gpm ((for 12-hour and 24-hour storm durations)

- Based upon their hydraulic modelling, Strand Associates projected a peak hourly flow of 2,680 gpm for Lift Station L.

Each of the above analyses suggest that a future increase in Lift Station L pumping capacity may likely be required. Capacity in the Lift Station L forcemain would be best reserved for any future upgrades in pumping capacity needed for Lift station L.

In our July 31st teleconference, there were additional questions as to whether the upsizing of approximately 1,060 lf of 8-inch diameter forcemain from Lift Station L would allow for a future increase in Lift Station L pumped flows with Lift Station C connected to the Lift Station L forcemain. (The majority of the Lift Station L forcemain is nominally 12-inch diameter; use of the pre-existing 8-inch forcemain across the golf course was performed as a construction cost savings measure.)

Comments regarding the upsizing of the 8-inch diameter segment, if Lift Station C, K, and L are connected to the forcemain, are as follows:

- Looking at a *possible* future upgrade of Lift Station L pumping capacity to 1,500 gpm, upsizing of the 8-inch forcemain on the golf course would *not* sufficiently alleviate pumping head restrictions *with Lift Stations L, C and K* connected to the forcemain. Calculated pumping heads for Lift Station L would be on the order of 450 feet T.D.H. at 1,500 gpm. Pumps are not manufactured in this range and the existing forcemain is not designed for these high pressures.

- Even with only Lift Station L and K connected to the upgraded forcemains, pumping heads may exceed the limit of available pumping equipment with Lift Station L pumping at 1,500 gpm.

- CUII should continue to focus on I/I reduction in the Lift Station L tributary basin, but infiltration and inflow (I/I) reduction may be insufficient to entirely eliminate a need to upgrade Lift Station L.

Recommendations are as follows:

- Upgrade Lift Station C to 700 gpm and continue to discharge Lift Station C to the Lake Shore Drive sewer. Connection to the Lift Station L forcemain is not recommended.

- Maintain reserve pumping capacity in the Lift Station L forcemain for any future upgrades needed for Lift Station L.

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- Continue to focus on I/I reduction in the Lift Station L tributary basin.
- Continue to monitor flows to Lift Station L.
- Upgrade Lift Station L in future phases if deemed warranted.

Please review the above and advise of any additional questions you may have. We are proceeding with our preparation of the new Engineer's Opinion of Probable Costs for the new Phase 1 projects.

RHMG ENGINEERS, INC.

William R. Rickert, P.E., , BCEE, CFM
President

Benjamin W. Metzler, P.E., CFM
Vice President

WRR/BWM/SLV/sv

Enclosure

cc Sean Carbonaro
Loren Grosvenor

P:\Utilities, Inc - 01\Twin Lakes\21901140 Twin Lakes Phase 1 Sanitary Sewer Improvements\200 - Correspondence\210 - Letters\Twin Lakes Memo 8 27 2019 (Rev of 8 14 2019 Memo).docx

CUII Twin Lakes
Sanitary Sewer Service Replacement
Preliminary Engineer's Opinion of Probable Costs

Prepared by: PDS 5/31/2019
Checked by: BWM

I. Right of Way						
1.1	Deep Service (15'-25') (Near)					
	Service with Riser	1	LS	$ 3,200.00	$	3,200.00
	Lawn Resto (15'x20')	33.3	SY	$ 10.00	$	333.33
	Trench Backfill (25%)	74.07	CY	$ 25.00	$	1,851.75
					$	5,385.08
1.2	Deep Service (15'-25') (Far)					
	Service with Riser	1	LS	$ 4,200.00	$	4,200.00
	Lawn Resto (15'x20')	33.3	SY	$ 10.00	$	333.33
	Pavement Resto (24'x10')	26.7	SY	$ 60.00	$	1,600.00
	Trench Backfill (25%+crossing)	132.59	CY	$ 25.00	$	3,314.75
					$	9,448.08
1.3	Shallow Service (5' - 15') (Near)					
	Service	1	LS	$ 2,200.00	$	2,200.00
	Lawn Resto (15'x15')	25.0	SY	$ 10.00	$	250.00
	Trench Backfill (25%)	37.04	CY	$ 25.00	$	926.00
					$	3,376.00
1.4	Shallow Service (5' - 15') (Far)					
	Service	1	LS	$ 3,200.00	$	3,200.00
	Lawn Resto (15'x15')	25.0	SY	$ 10.00	$	250.00
	Pavement Resto (24'x10')	26.7	SY	$ 60.00	$	1,600.00
	Trench Backfill (25%+crossing)	89.41	CY	$ 25.00	$	2,235.25
					$	7,285.25
II. Private Property						
2.1	Deep Service (12'-15'), Short					
	Service	50	LF	$ 60.00	$	3,000.00
	Lawn Resto (20' x 50')	111.11	SY	$ 10.00	$	1,111.10
					$	4,111.10
2.2	Deep Service (12'-15'), Long					
	Service	100	LF	$ 60.00	$	6,000.00
	Lawn Resto (20' x 100')	222.22	SY	$ 10.00	$	2,222.20
					$	8,222.20
2.3	Shallow Service (<15'), Short					
	Service	50	LF	$ 50.00	$	2,500.00
	Lawn Resto (20' x 50')	111.11	SY	$ 10.00	$	1,111.10
					$	3,611.10

2.4	Shallow Service (<15'), Long Service	100	LF	$	50.00	$ 5,000.00
	Lawn Resto (20' x 100')	222.22	SY	$	10.00	$ 2,222.20
						$ 7,222.20

III. Spot Repairs						
3.1	Deep Spot Repair (>15')					
	Spot Repair (up to 10' of pipe)	1	LS	$	4,200.00	$ 3,400.00
	Lawn Resto (15'x20')	33.3	SY	$	10.00	$ 333.33
						$ 3,733.33
3.2	Shallow Spot Repair (<15')					
	Spot Repair (up to 10' of pipe)	1	LS	$	3,200.00	$ 2,800.00
	Lawn Resto (15'x20')	33.3	SY	$	10.00	$ 333.33
						$ 3,133.33

Notes

1. Restoration pay widths are typically 15', however the above assumes 20' due to the small quantity.
2. Trench backfill included in short ROW service costs as a conservative assumption - it may be necessary depending on proximity to streets/driveways
3. Crossing depths assumed to be 8' and 10' for shallow and deep services, respectively
4. For services under driveways, restoration and trench backfill costs will be at least 2-3 times the cost of landscape restoration

Community Utilities of Indiana, Inc.
Technical Conference Agenda

Tuesday, October 29, 2019 at 1:00pm
101 W. Washington Street, Suite 1500E, Indianapolis, Indiana

1. Opening Remarks

2. Progression of System Improvement Plan[1]

    a. Evaluation and Planned Improvements of Water Supply System
        i. Construction progress

    b. Evaluation and Planned Improvements of Water Treatment System
        i. Engineering progress

    c. Evaluation and Planned Improvements of Water Distribution System
        i. Construction progress (2019)
        ii. Communication with LOFS
        iii. Engineering progress (2020/2021)

    d. Evaluation and Planned Improvements of Wastewater Collection System
        i. Inflow Reduction Program – Home inspections
        ii. Customer Lateral Replacements – Petition for Inclusion in Rate Base[2]
        iii. Inflow Reduction Program – Smoke testing/dye testing
        iv. Infiltration Reduction Program – Lining progress
        v. Collection System Expansion – Engineering progress

    e. Evaluation and Planned Improvements of Wastewater Treatment System
        i. Engineering progress
        ii. Permitting progress

3. Cost and Schedule of Projects and Programs

    a. Timing and cost modifications

    b. Timeline and considerations for Filing and Approval of projects under IN Code 8-1-2-23

4. Performance Metrics

5. Asset Management Plan

    a. OMS Implementation/Utilization progress

6. Next Steps

[1] Revised Cost and Schedule of Projects and Programs attached.

[2] Lateral Replacements Cost Estimates attached.

CUII Twin Lakes
Sanitary Sewer Service Replacement
Preliminary Engineer's Opinion of Probable Costs

Prepared by: PDS 5/31/2019
Checked by: BWM

Full Replacement						
2.1	Deep Service (>15'), Short					
	Service	50	LF	$ 60.00	$	3,000.00
	Lawn Resto (20' x 50')	111.11	SY	$ 10.00	$	1,111.10
					$	4,111.10
2.2	Deep Service (>15'), Long					
	Service	100	LF	$ 60.00	$	6,000.00
	Lawn Resto (20' x 100')	222.22	SY	$ 10.00	$	2,222.20
					$	8,222.20
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	Service	50	LF	$ 50.00	$	2,500.00
	Lawn Resto (20' x 50')	111.11	SY	$ 10.00	$	1,111.10
					$	3,611.10
2.4	Shallow Service (<15'), Long					
	Service	100	LF	$ 50.00	$	5,000.00
	Lawn Resto (20' x 100')	222.22	SY	$ 10.00	$	2,222.20
					$	7,222.20
Partial Replacement						
3.1	Deep Spot Repair (>15')					
	Spot Repair (up to 10' of pipe)	1	LS	$ 4,200.00	$	4,200.00
	Lawn Resto (15'x20')	33.3	SY	$ 10.00	$	333.33
					$	4,533.33
3.2	Shallow Spot Repair (<15')					
	Spot Repair (up to 10' of pipe)	1	LS	$ 3,200.00	$	3,200.00
	Lawn Resto (15'x20')	33.3	SY	$ 10.00	$	333.33
					$	3,533.33

CAUSE NO. 44646

OUCC Data Request Set No. 1

07/21/2015

OUCC DR 1-19: **Please answer the following questions regarding new customers added to Petitioner's wastewater system:**

a. State the number of new customers added during each of the years 2013, 2014 and 2015.

b. State the total costs for connecting new customers in each of the years 2013, 2014 and 2015.

c. State the total fees collected from new customers to connect to Petitioner's wastewater system in each of the years 2013, 2014 and 2015.

Response:

a. 3 Sewer customers were added during 2013; 9 Sewer customers were added during 2014; 4 Sewer customers were added during 2015.

b. The Company does not track the total costs for connecting new customers, but the average cost of doing so is estimated at $5,500 per customer.

c. $2,148 of total fees collected in 2013; $6,444 of total fees collected in 2014; $2,863 of total fees collected in 2015.

STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

PETITION OF COMMUNITY UTILITIES OF INDIANA, INC. FOR (1) AUTHORITY TO INCREASE ITS RATES AND CHARGES FOR WATER AND WASTEWATER UTILITY SERVICE; (2) APPROVAL OF NEW SCHEDULES OF RATES AND CHARGES APPLICABLE THERETO; AND (3) APPROVAL OF NEW DEPRECIATION RATES	))))))))	**CAUSE NO. 44724**

COMMUNITY UTILITIES OF INDIANA, INC.'S
SUBMISSION OF AGENDA AND MATERIALS FOR TECHNICAL CONFERENCE

Petitioner Community Utilities of Indiana, Inc. ("CUII"), by counsel and pursuant to the Final Order issued in this Cause, hereby submits the attached agenda, budget and schedule chart, and lateral replacements cost estimates for the technical conference scheduled for October 29, 2019.

Respectfully submitted,

Nicholas K. Kile, Atty No. 15203-53
Jeffrey M. Peabody, Atty No. 28000-53
BARNES & THORNBURG LLP
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Indianapolis, Indiana 46204
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Fax: (317) 231-7433
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jpeabody@btlaw.com

Attorneys for Petitioner COMMUNITY UTILITIES OF INDIANA, INC.

Community Utilities of Indiana, Inc. Technical Conference Agenda

Tuesday, October 29, 2019 at 1:00pm
101 W. Washington Street, Suite 1500E, Indianapolis, Indiana

1. Opening Remarks

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    b. Evaluation and Planned Improvements of Water Treatment System
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    c. Evaluation and Planned Improvements of Water Distribution System
        i. Construction progress (2019)
        ii. Communication with LOFS
        iii. Engineering progress (2020/2021)

    d. Evaluation and Planned Improvements of Wastewater Collection System
        i. Inflow Reduction Program – Home inspections
        ii. Customer Lateral Replacements – Petition for Inclusion in Rate Base[2]
        iii. Inflow Reduction Program – Smoke testing/dye testing
        iv. Infiltration Reduction Program – Lining progress
        v. Collection System Expansion – Engineering progress

    e. Evaluation and Planned Improvements of Wastewater Treatment System
        i. Engineering progress
        ii. Permitting progress

3. Cost and Schedule of Projects and Programs

    a. Timing and cost modifications

    b. Timeline and considerations for Filing and Approval of projects under IN Code 8-1-2-23

4. Performance Metrics

5. Asset Management Plan

    a. OMS Implementation/Utilization progress

6. Next Steps

[1] Revised Cost and Schedule of Projects and Programs attached.

[2] Lateral Replacements Cost Estimates attached.

CUII Twin Lakes

Sanitary Sewer Service Replacement

Preliminary Engineer's Opinion of Probable Costs

Prepared by: PDS 5/31/2019
Checked by: BWM

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					$	3,533.33

CUII Reported Avg. = $5,200.00

Avg. of Highlighted #s = $5,205.54

STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

PETITION OF COMMUNITY UTILITIES OF INDIANA, INC. FOR (1) AUTHORITY TO INCREASE ITS RATES AND CHARGES FOR WATER AND WASTEWATER UTILITY SERVICE; (2) APPROVAL OF NEW SCHEDULES OF RATES AND CHARGES APPLICABLE THERETO; AND (3) APPROVAL OF NEW DEPRECIATION RATES	))))))))	**CAUSE NO. 44724**

COMMUNITY UTILITIES OF INDIANA, INC.'S SUBMISSION OF MINUTES FROM THE OCTOBER 2019 TECHNICAL CONFERENCE

Petitioner Community Utilities of Indiana, Inc. ("CUII"), by counsel and pursuant to the Final Order issued in this Cause, hereby submits the Minutes from the October 2019 technical conference.

Respectfully submitted,

Nicholas K. Kile, Atty No. 15203-53
Jeffrey M. Peabody, Atty No. 28000-53
BARNES & THORNBURG LLP
11 South Meridian Street
Indianapolis, Indiana 46204
Telephone: (317) 231-6465
Fax: (317) 231-7433
Email: nkile@btlaw.com
jpeabody@btlaw.com

Attorneys for Petitioner COMMUNITY UTILITIES OF INDIANA, INC.

- Mr. Carbonaro indicated the final 90% design meeting for the Water Treatment Plant improvements was held in September 2019. He further indicated bidding is expected in November 2019, with construction anticipated in late 2020, during the lower usage winter season.

c. Evaluation and Planned Improvements of Water Distribution System

i. Construction progress (2019)

- Mr. Carbonaro indicated the water main and service lines are nearly complete. He indicated restoration work would continue into Spring 2020 but CUII is getting very close to resolving restoration issues.

ii. Communication with LOFS

iii. Engineering progress (2020/2021)

- Mr. Carbonaro indicated CUII has identified three streets for watermain replacement. Mr. Carbonaro stated that the locations were selected based on watermain breaks and in coordinating with LOFS on paving schedules. He indicated preliminary design will be completed in November and with bidding likely in January or February 2020. Mr. Parks from the Office of Utility Consumer Counselor asked about CUII's prequalification process. Mr. Carbonaro discussed the process and there was general discussion that followed.

d. Evaluation and Planned Improvements of Wastewater Collection System

i. Inflow Reduction Program – Home inspections

- Mr. Loren Grosvenor reported on CUII's I&I Reduction program. He indicated the Utility targeted 416 homes in 2019 and inspected 397. With these inspections, Mr. Grosvenor indicated the Utility identified nine homes with unknown sump pump discharges, and all but two homes have corrected the problem. Mr. Grosvenor stated the Utility has been able to remove a lot of I&I from the system based solely on removing the sump pump issues. Mr. Grosvenor indicated the Utility is still working on addressing customer lateral issues and LOFS has been working with CUII to help communicate to customers. Mr. Grosvenor generally discussed the Utility's process for inspecting homes and correcting issues. Questions from the bench arose regarding smoke testing and partial compliance. There was general discussion that followed.
- Mr. Parks asked of the 3100 residential customers how many have reached total compliance. Mr. Grosvenor indicated 154 customers had reached full compliance. He indicated further that 400 homes from last year will go in partial compliance for sewer lateral. Mr. Parks also asked about the rate of home inspections. Mr. Grosvenor indicated it is a long process but the process is working.

ii. Customer Lateral Replacements – Petition for Inclusion in Rate Base[2]

- Mr. Justin Kersey spoke generally regarding the Utility's proposal to amend its rules tariff to include customer service lateral replacements. Mr. Kersey indicated the customers are getting very high quotes for replacement and CUII is interested in replacing the laterals and seeking recovery of the costs. Judge Manion indicated it would not be appropriate for the Commission to provide feedback on the proposal. Mr. Curt Gassert and Mr. Marcus Turner raised potential concerns related to the proposal. Ms. Margaret Stull offered that the Utility could do the work and loan the money to its customer and earn a return in the form of interest on the loan. Mr. Kersey indicated if the

laterals were added to rate base it would add a cost of $4-$6 per customer. LOFS representatives indicated the customers would be supportive of the proposal.

iii. Inflow Reduction Program – Smoke testing/dye testing

- Mr. Carbonaro indicated the Utility identified some potential defects and is addressing these issues. Mr. Carbonaro indicated 100% of homes have been smoke tested, but the Utility is waiting for the draft report for this year and expects to receive it in January 2020.

iv. Infiltration Reduction Program – Lining progress

- Mr. Carbonaro discussed the program and commented on the cost of the lining progress. The parties asked another round of questions related to I&I reductions. Mr. Carbonaro indicated the Utility had not performed a specific calculation and he is not sure how helpful the calculation would be. He indicated the Utility is hoping for 30 percent reduction over time.
- There was a request from LOFS and OUCC for the 60% Baxter & Woodman Report and underlying data. Mr. Carbonaro indicated the Utility would provide this information.

v. Collection System Expansion – Engineering progress

- Mr. Carbonaro indicated the Utility discussed with RHMG and determined it would not be prudent to build a new lift station. They decided to change the scope to upgrading three lift stations (lift stations B, C and D); Mr. Carbonaro indicated this would allow CUII to eliminate SSOs at specific manholes. He further indicated the Utility is expecting 90% design in November and plans to go out to bid in January. He stated the Utility is working with LOFS on easements.

e. **Evaluation and Planned Improvements of Wastewater Treatment System**

i. Engineering progress

- Mr. Carbonaro indicated the Utility had the 60% design meeting in October. He further indicated the Utility is expecting final design in January and plans to go out to bid in Spring. Mr. Carbonaro also discussed the change of scope from a bagging system to a sludge thickening system. He indicated this would have greater benefits than the system originally proposed by Commonwealth Engineering.
- Mr. Carbonaro also indicated a new raw sewage pump station was added to the original Basis of Design to improve system hydraulics and reduce construction costs.

ii. Permitting progress

- Mr. Parks asked about the IDEM permit application. Mr. Carbonaro indicated IDEM had no comments on the permit and he expects IDEM to approve the permit soon. Mr. Carbonaro indicated he would provide a copy of the permit to the OUCC.

3. Cost and Schedule of Projects and Programs

a. Timing and cost modifications

i. LOFS representatives asked for details regarding the cost estimate detail changes from April. Mr. Parks asked a series of questions about the cost estimates increasing. Mr. Carbonaro indicated the original cost estimate was a preliminary estimate and the project has actually been designed now so the cost estimate is much more accurate. There was also general discussion around the total cost of the projects and the cost impact on customers. Mr. Lubertozzi indicated the

CUII version (filed with the IURC on 11/12/2019) 148 words

ii. Customer Lateral Replacements – Petition for Inclusion in Rate Base[2]

- Mr. Justin Kersey spoke generally regarding the Utility's proposal to amend its rules tariff to include customer service lateral replacements. Mr. Kersey indicated the customers are getting very high quotes for replacement and CUII is interested in replacing the laterals and seeking recovery of the costs. Judge Manion indicated it would not be appropriate for the Commission to provide feedback on the proposal. Mr. Curt Gassert and Mr. Marcus Turner raised potential concerns related to the proposal. Ms. Margaret Stull offered that the Utility could do the work and loan the money to its customer and earn a return in the form of interest on the loan. Mr. Kersey indicated if the laterals were added to rate base it would add a cost of $4-$6 per customer. LOFS representatives indicated the customers would be supportive of the proposal.

OUCC edits (Parks) (not filed with the IURC) 465 words

ii. Customer Lateral Replacements – Petition for Inclusion in Rate Base[2]

Mr. Justin Kersey spoke about including customer service lateral replacements in CUII's rate base. He said CUII talked to LOFS who indicated they wouldn't oppose CUII filing a petition. Mr. Kersey indicated that for customers with root intrusions and breaks, the customers are getting very high quotes for replacement. They have 60 days to fix the lateral and are seeing high plumber costs. Steve Lubertozzi said CUII is interested in replacing the laterals and seeking recovery of the costs. Mr. Lubertozzi asked for the IURC's and OUCC's opinions. Judge Manion indicated it would not be appropriate for the Commission to provide feedback on the proposal. Mr. Curt Gassert questioned whether it would meet used and useful. Ted Fitzgerald said LOFS is not opposed in principle. He noted $10,000 quotes to replace laterals. Mr. Marcus Turner said it would be a bit of a can of worms – would CUII own the lateral with an easement? Mr. Kersey said CUII was open to turn the new laterals back to customers but keep the cost on CUII's books.

Scott Bell asked about the numbers – costs and how many laterals. He noted the cost range ($4,111 to $8,222) in CUII's Attachment included in the Tech Conference materials. Mr. Kersey said CUII would have to do a count. Ms. Margaret Stull pointed out if the estimate was too high, a customer might not be able to afford it at any cost. Loren Grosvenor said CUII has asked for quotes but has none. They have verbal quotes, some as high as $25,000. He said if CUII does the customers' lateral replacements, CUII can get a fair price.

Margaret Stull offered that the Utility could do the work and loan the money to its customers and earn a return in the form of interest on the loan, but the customer laterals would not be on CUII's books. Jim Parks described what was done in Michigan City where the water utility agreed to take over the mains in the Pottawatomie Park subdivision but only if they were relocated out of backyards to the street right of way for proper access. The replacement cost is funded by a surcharge only on customers in Pottawatomie Park rather than all customers.

Mr. Ted Fitzgerald added that for LOFS customers with clogged laterals who don't know what the problem is, it is difficult to get good cost quotes.

Mr. Kersey indicated CUII estimates replacing 8 to 12% of customer laterals at an average of $5,200 per lateral. He stated if the laterals were added to rate base it would add a cost of $4-$6 per customer per month. Ted Fitzgerald said customers can buy insurance for lateral repairs but can avoid it if CUII does the repairs.

[2] Lateral Replacements Cost Estimates attached.

STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

PETITION OF COMMUNITY UTILITIES OF INDIANA, INC. FOR APPROVAL OF (1) EXPENDITURES FOR CONSTRUCTION OF ADDITIONS AND IMPROVEMENTS TO PETITIONER'S WASTEWATER UTILITY PROPERTIES, AND (2) THE INCLUSION OF THE VALUE OF SUCH NEW FACILITIES, INCLUDING PLAN DEVELOPMENT AND IMPLEMENTATION COSTS, IN PETITIONER'S RATE BASE IN FUTURE CASES.	)	**CAUSE NO. 45389**

PETITIONER'S SUBMISSION OF DIRECT TESTIMONY OF
SEAN CARBONARO

Community Utilities of Indiana, Inc. ("CUII" or "Petitioner"), by counsel, hereby submits the direct testimony and attachments of Sean Carbonaro.

Respectfully submitted,

Nicholas K. Kile (Atty No. 15203-53)
Jeffrey M. Peabody (Atty No. 28000-53)
Lauren M. Box (Atty No. 32521-49)
Barnes & Thornburg LLP
11 South Meridian Street
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Peabody Phone: (317) 231-6465
Box Phone: (317) 231-7289
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Email: nkile@btlaw.com
jpeabody@btlaw.com
lbox@btlaw.com
Attorneys for Petitioner
Community Utilities of Indiana, Inc.

DESCRIPTION OF THE COMPANY'S WASTEWATER SYSTEM

Q8. PLEASE DESCRIBE THE COLLECTION SYSTEM.

A8. The Twin Lakes wastewater collection system ("collection system") is a separate sanitary sewer system originally constructed in the 1960s and has expanded over time. The collection system includes a total of approximately 167,320 linear feet of gravity sewer, fourteen lift stations with associated force mains, and approximately 3,150 connections. The gravity sewer pipe in the collection system primarily consists of asbestos cement ("AC") and polyvinyl chloride pipe ("PVC"). The collection system has 637 manholes, primarily constructed of pre-cast concrete. The customer laterals are primarily constructed of vitrified clay pipe ("VCP"), PVC, and Reinforced Concrete Pipe (RCP). All flow from the collection system is treated at the WWTP located at 9201 East 123rd Avenue then discharged to the East Branch of Stony Run. A map of the system is provided in Attachment SC-1. The collection system is a separate sanitary sewer system by design. Stormwater in most of the service area is managed by the Lakes of the Four Seasons Property Owners Association ("LOFS") and consists of primarily ditches and culverts for drainage.

Q9. PLEASE DESCRIBE THE WWTP.

A9. The WWTP is a biological treatment plant originally constructed in the 1960s and expanded through the 1990s. The WWTP currently includes three trains of biological treatment. The facility is designed for a Daily Average Flow (DAF) capacity of 1.10 Million Gallons per Day (MGD) and a peak flow capacity of 3.58 MGD. The WWTP is described in detail in the Twin Lakes Wastewater Utility Preliminary Engineering Report, dated July 2018, prepared by Commonwealth Engineers (Commonwealth), provided as Attachment SC-2.

The 2018 SSES report included flow monitoring, manhole inspections, lateral televising, and smoke testing of the basins previously identified as highest priority in the Strand report. The flow monitoring in the 2018 SSES report was used to correlate defects identified in the collection system with excess flow identified in each basin. One basin was used as a control basin. The proposed rehabilitation and improvements identified in the 2018 SSES report are discussed later in this testimony.

Q28. PLEASE SUMMARIZE THE SMOKE TESTING AND DYE STUDIES THE COMPANY HAS UNDERTAKEN.

A28. The entire collection system was smoke tested in 2018 and 2019. The 2018 SSES study performed by RJN includes smoke testing of the four basins identified by the Strand report as the highest priority. RJN prepared the 2019 SSES report, dated February 28, 2020, provided as Attachment SC-12, which included smoke testing the remainder of the collection system and dye testing of smoke testing defects identified in 2018 and 2019. Additional follow-up investigations, including sewer main televising and manhole inspections, were conducted following review of the smoke testing data.

Q29. PLEASE DESCRIBE THE COMPANY'S HOME INSPECTION PROGRAM.

A29. In 2017, the Company initiated a home inspection program to identify prohibited connections, including downspouts, sump pumps, and foundation drains, connected to the sanitary sewer. A total of 81 and 179 homes were inspected in 2017 and 2018, respectively. On July 31, 2018, the Commission approved 30-Day filing No. 50120, allowing the Company to revise the Sewer Rules, Regulations and Conditions of Service to allow enforcement of prohibited connections removal. A total of 405 homes were inspected in 2019. In 2019, the Company also began televising customer laterals. The goal of the program is to inspect 10% of homes per year. The goal of inspecting 10% of

homes per year was set after reviewing current staffing levels and availability to complete the home inspections. The Company has enforced removal of prohibited connections throughout the inspections process.

Q30. PLEASE SUMMARIZE THE COMPANY'S LATERAL TELEVISING EFFORTS.

A30. The 2018 SSES report included televising laterals in one of the high priority basins. A total of 90 laterals were televised in 2018. The lateral televising identified defects, including cracks, fractures, root, offset joints, and other issues, on the Company-owned and customer-owned portions of the laterals. The Company identified laterals that were determined to be abandoned or capped. The Company attempts to televise customer laterals during the home inspection process. The Company plans to televise laterals prior to sewer main lining during the 2020 sewer main lining project.

Q31. WHAT OTHER EFFORTS HAS THE COMPANY MADE TO IMPROVE THE WASTEWATER COLLECTION SYSTEM?

A31. The Company has developed a comprehensive approach of identifying defects and rehabilitating, repairing, or replacing components of the collection system as necessary to improve the condition of the collection system and reduce I/I. The approach for each portion of the collection system is explained below. These efforts are ongoing.

- **Point replacements/repairs** -- The Company has completed point replacements/repairs of sewer main based on defects identified from sewer televising efforts. The Company generally decides between point replacement/repair and sewer lining based upon several factors, including viability to line, depth of sewer, segment length, and presence of other defects in the segment.

- **Sewer lining --** A total of 2,929 linear feet of sewer main was lined in 2018. The sewer lining was completed following review of the sewer televising data by RHMG. The Company plans to line an additional 5,620 linear feet of sewer main in 2020. The Company also plans to televise laterals of the sewer main segments to be lined to identify if any laterals are capped or abandoned and can be sealed and identify defects in laterals.
- **Manhole inflow dishes –** Approximately 255 of the 605 total manholes have inflow dishes (also known as rain-stoppers). The Company installs and replaces these as needed or identified from inspections. These inflow dishes are used on manholes that may be subject to inflow, such as those constructed in ditches.
- **Manhole lining --** Since 2013, the Company has lined approximately 146 manholes of the 605 total manholes in the collection system. These manholes were selected for lining following manhole inspections. SpectraTech has completed a majority of the manhole lining rehabilitation for the Company. SpectraTech's product is comprised of silicone modified polyurea and a polyurethane/polymeric blend foam, designed to eliminate leaks and corrosion in the manholes. SpectraTech provides a ten-year warranty.
- **Home inspections/notices --** The Company has implemented a home inspection program to eliminate prohibited connections that introduce inflow to the collection system. Since 2017, the Company has removed prohibited connections at approximately 37 homes. The Company continues to pursue enforcement of known violations and prohibited connections.

identified as candidates. An additional 5,620 linear feet of sewer is planned for lining in 2020, which addresses all known sewer main defects that have been identified as sewer lining candidates. As previously discussed, the entire sewer collection system was televised within the last five years and the Company continues televising of approximately 10% of the sewer mains each year and reviews the data to revise the list of sewer main requiring rehabilitation.

Q39. HAS THE COMPANY CONSIDERED REHABILITATION OR REPLACEMENT OF SEWER LATERALS?

A39. Yes, the Company reviewed potential costs of lateral replacements and determined that it was not an optimal solution. The current tariff identifies that the divide between the Company-owned side and the property owner side is the property line. As described in the 2018 SSES Report, a total of 90 laterals were televised in Basin M11a. A total of 21 laterals were identified to be capped. The Company believes these lateral taps were installed during sewer main construction to accommodate each available lot. These may correspond to undeveloped lots or lots that tapped the sewer main aside from the designated tap. Seven of those laterals were found to be defective. RJN recommended that those laterals not be reinstated if the sewer main is lined. Of the remaining 70 laterals in service, RJN identified ten laterals as replacement candidates and six laterals as point repair candidates. RHMG prepared a Preliminary Engineer's Opinion of Probable Costs (EOPC) for various lateral replacement and repair scenarios, provided as Attachment SC-16. Based on the expected cost for replacement against spot repairs, the Company would prefer replacement as it would address all issues in the lateral and reduce potential for future defects and may not cost significantly more in some scenarios. Moreover, depending on the area within the system, the laterals may be approaching the

end of expected service life. A majority of the laterals observed in this area were VCP and RCP. Therefore, for this basin, the Company would recommend replacing 17 of the 70 laterals (approximately 24% of laterals). The entire system has approximately 3,150 connections. If the 24.2% is applied to the entire system, approximately 765 laterals would require replacement. The Company also has lateral televising data from inspections and has identified between 8% to 12% of laterals may need replacement. The 24.2% identified from Basin M11a may be unusually high because the Company specifically targeted the basin with the highest identified I/I. System-wide, a replacement percentage of 10% may be more appropriate, leading to a total of approximately 315 laterals to be replaced. Assuming an equal weight to all scenarios for lateral replacements (short vs long, deep vs shallow) presented in Attachment SC-16, the average lateral replacement is estimated at $5,200, not including engineering or other associated costs. The construction capital cost for lateral replacement is estimated at $1,638,000, including approximately 20% for engineering and contingency, total cost would be expected to be $2,000,000. This amount does not include the cost to televise all laterals in the system, which could be achieved either through home inspections or camera launches from the sewer main, or cost for data review to identify which laterals are candidates for replacement. Lateral repair or replacement may become an ongoing cost as the collection system, including the laterals, continues to age.

The Company's preference would be to replace laterals on both the Company-owned side and the property owner's side in a single construction project. The Company believes it would be able to complete the replacements in a more cost-effective and efficient matter than forcing individual property owners to identify contractors and

complete the replacements. Significant coordination would be necessary for the replacement on the Company-owned side and the property owner-side by likely separate contractors. The Company would need to inspect work completed by property owner-engaged contractors to verify work meet's the Company's construction standards, adding additional coordination and complexity.

Q40. IN YOUR OPINION, IS THE COLLECTION SYSTEM IMPROVEMENT PROJECT THE BEST SOLUTION FOR DECREASING SSOs AND BASEMENT BACKUPS AND TO ENABLE THE COMPANY TO PROVIDE SAFE AND RELIABLE SERVICE TO ITS CUSTOMERS?

A40. Yes. While the Company continues to implement a comprehensive I/I removal program, engineering studies have determined that conveyance improvements, such as this proposed project, are necessary to alleviate SSOs and for the Company to comply with the Commission's order to reduce basement backups and manhole overflows. Significant programs, such as lining all sewer main or replacing a significant portion of laterals, are explored in this testimony, however, these approaches are not guaranteed to reduce I/I to the level needed or of being more cost-effective than the proposed conveyance improvements specifically targeted at the historical SSOs and those identified from flow monitoring and modeling.

A summary of the historical SSOs that would be addressed by the proposed improvements are provided in Attachment SC-17. The proposed improvements would address 65 of the 87 precipitation-related SSOs since 2008 and 44 of the 45 precipitation-related SSOs since 2014. The remaining SSO occurred at the WWTP and the Company plans to address that during a proposed WWTP expansion.

The proposed conveyance improvements from this project are specifically targeted to, upon completion of construction, provide immediate relief from SSOs to the

FILED
June 11, 2020
INDIANA UTILITY
REGULATORY COMMISSION

STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

PETITION OF COMMUNITY UTILITIES OF INDIANA, INC. FOR APPROVAL OF (1) EXPENDITURES FOR CONSTRUCTION OF ADDITIONS AND IMPROVEMENTS TO PETITIONER'S WASTEWATER UTILITY PROPERTIES, AND (2) THE INCLUSION OF THE VALUE OF SUCH NEW FACILITIES, INCLUDING PLAN DEVELOPMENT AND IMPLEMENTATION COSTS, IN PETITIONER'S RATE BASE IN FUTURE CASES.	)	**CAUSE NO. 45389**

PETITIONER'S SUBMISSION OF DIRECT TESTIMONY OF
SEAN CARBONARO

VOLUME 5

Attachment SC-16, Sanitary Sewer Service Replacement Costs, May 31, 2019

CUII Twin Lakes
Sanitary Sewer Service Replacement
Preliminary Engineer's Opinion of Probable Costs

Prepared by: PDS 5/31/2019
Checked by: BWM

I. Right of Way						
1.1	Deep Service (15'-25') (Near)					
	Service with Riser	1	LS	$ 3,200.00	$	3,200.00
	Lawn Resto (15'x20')	33.3	SY	$ 10.00	$	333.33
	Trench Backfill (25%)	74.07	CY	$ 25.00	$	1,851.75
					$	5,385.08
1.2	Deep Service (15'-25') (Far)					
	Service with Riser	1	LS	$ 4,200.00	$	4,200.00
	Lawn Resto (15'x20')	33.3	SY	$ 10.00	$	333.33
	Pavement Resto (24'x10')	26.7	SY	$ 60.00	$	1,600.00
	Trench Backfill (25%+crossing)	132.59	CY	$ 25.00	$	3,314.75
					$	9,448.08
1.3	Shallow Service (5' - 15') (Near)					
	Service	1	LS	$ 2,200.00	$	2,200.00
	Lawn Resto (15'x15')	25.0	SY	$ 10.00	$	250.00
	Trench Backfill (25%)	37.04	CY	$ 25.00	$	926.00
					$	3,376.00
1.4	Shallow Service (5' - 15') (Far)					
	Service	1	LS	$ 3,200.00	$	3,200.00
	Lawn Resto (15'x15')	25.0	SY	$ 10.00	$	250.00
	Pavement Resto (24'x10')	26.7	SY	$ 60.00	$	1,600.00
	Trench Backfill (25%+crossing)	89.41	CY	$ 25.00	$	2,235.25
					$	7,285.25
II. Private Property						
2.1	Deep Service (12'-15'), Short					
	Service	50	LF	$ 60.00	$	3,000.00
	Lawn Resto (20' x 50')	111.11	SY	$ 10.00	$	1,111.10
					$	4,111.10
2.2	Deep Service (12'-15'), Long					
	Service	100	LF	$ 60.00	$	6,000.00
	Lawn Resto (20' x 100')	222.22	SY	$ 10.00	$	2,222.20
					$	8,222.20
2.3	Shallow Service (<15'), Short					
	Service	50	LF	$ 50.00	$	2,500.00
	Lawn Resto (20' x 50')	111.11	SY	$ 10.00	$	1,111.10
					$	3,611.10

2.4	Shallow Service (<15'), Long Service	100	LF	$ 50.00	$ 5,000.00
	Lawn Resto (20' x 100')	222.22	SY	$ 10.00	$ 2,222.20
					$ 7,222.20

III. Spot Repairs					
3.1	Deep Spot Repair (>15')				
	Spot Repair (up to 10' of pipe)	1	LS	$ 4,200.00	$ 3,400.00
	Lawn Resto (15'x20')	33.3	SY	$ 10.00	$ 333.33
					$ 3,733.33
3.2	Shallow Spot Repair (<15')				
	Spot Repair (up to 10' of pipe)	1	LS	$ 3,200.00	$ 2,800.00
	Lawn Resto (15'x20')	33.3	SY	$ 10.00	$ 333.33
					$ 3,133.33

Notes

1. Restoration pay widths are typically 15', however the above assumes 20' due to the small quantity.
2. Trench backfill included in short ROW service costs as a conservative assumption - it may be necessary depending on proximity to streets/driveways
3. Crossing depths assumed to be 8' and 10' for shallow and deep services, respectively
4. For services under driveways, restoration and trench backfill costs will be at least 2-3 times the cost of landscape restoration

W/S	Project	Expected Start Date	Expected Completion Date	Estimated Cost
S	Twin Lakes 2022 Lateral Replacements	5/1/2022	9/30/2022	$342,092
S	Twin Lakes Lift Station L Forcemain Replacement	11/1/2021	6/30/2022	$427,206
W	Twin Lakes Wells #12 and #13	12/1/2018	11/30/2021	$351,157
W	2020/2021 Twin Lakes Watermain and Service Line Replacements	11/1/2019	11/30/2021	$786,877
S	WSCI 2020 SCIP	2/1/2020	10/30/2021	$26,523
W	Indiana AMR Replacements – 2023	1/1/2023	9/30/2023	$427,325
W	2023 Twin Lakes Watermain and Service Line Replacements	4/1/2023	9/30/2023	$274,289
S	Twin Lakes 2023 SCIP	4/1/2023	9/30/2023	$521,086
S	WSCI 2023 SCIP	4/1/2023	9/30/2023	$44,999
W	2023 IWSI Watermain Replacement	4/1/2023	9/30/2023	$492,419
S	Twin Lakes 2023 Lateral Replacements	5/1/2023	9/30/2023	$358,967
S	Twin Lakes Chemical Building/Office Building	11/1/2022	9/30/2023	$500,000
S	Twin Lakes Headworks	11/1/2022	9/30/2023	$2,296,298

Q. PLEASE DESCRIBE THE AMR REPLACEMENT PROJECTS SHOWN ON THE CHART ABOVE.

A. Customer meters in all three of CUII's water systems will be replaced. Automatic Meter Reading ("AMR") meters will be used for all meter replacements. CUII began installing Neptune meters in 2021, consistent with other states where Corix operates. A plumbing contractor assisted CUII with meter replacements in 2021 due to COVID restrictions. Meters were also replaced by CUII staff in 2021. In 2022, CUII anticipates that loosening of COVID restrictions will allow all meters to be replaced by CUII staff. CUII purchased a meter reading device in 2021 as part of this project and plans to purchase another in 2022. A total of 1,564 meters are planned to be installed by the end of 2021. CUII plans to replace the remaining meters in 2022 and 2023 with, an estimated total of 1,653 meters in 2022.

Laterals

for that operation mode. If that tie-in is not feasible or cost-effective, CUII will size the generator for the existing pumps.

The community has requested that CUII remove the trailer-mounted generator. Lift Station C is located in the community in an area visible to many homes and the golf course. A permanent generator, potentially with some landscaping, would be more attractive to the community. CUII will move the trailer-mounted generator to another location or keep it on stand-by for emergency deployment elsewhere in the systems.

Q. HOW WAS THE COST ESTIMATE DERIVED FOR THE GENERATOR REPLACEMENT?

A. The cost estimate was developed using experience with similar projects that CUII has completed. However, based on discussion with engineers and contractors, CUII understands the costs of generators have risen in recent months and continue to rise. CUII's current estimate includes $20,000 for engineering (evaluation and design), $45,000 for generator procurement and $40,000 for installation.

Q. PLEASE DESCRIBE THE TWIN LAKES LATERAL REPLACEMENT PROJECTS AND THEIR NEED.

A. Previous investigations have identified that sewer laterals (CUII side and property owner side) contribute to I&I in the Twin Lakes sewer system. CUII estimates that approximately 10% of the sewer laterals in the system are in need of replacement. The Company has lateral televising data from inspections and has identified between 8% to 12% of laterals may need replacement. This indicates that system-wide, a replacement a percentage of 10% may be appropriate, leading to a total of approximately 315 laterals to be replaced.

Laterals

The average lateral replacement is estimated at $5,200 as shown in Attachment LG-5, not including engineering or other associated costs. The total construction capital cost for lateral replacement is estimated at $1,638,000, including approximately 20% for engineering and contingency, total cost would be expected to be $2,000,000. This amount does not include the cost to televise all laterals in the system. We have estimated lateral replacement cost of $342,092 in 2022 and $358,967 for 2023. However, lateral repair or replacement is likely to become an ongoing cost as the collection system, including the laterals, continues to age.

The Company's preference would be to replace laterals on both the Company-owned side and the property owner's side in a single construction project, as proposed in these projects. The Company believes it would be able to complete the replacements in a more cost-effective and efficient matter than requiring individual property owners to identify contractors and complete the replacements. Significant coordination would be necessary for the replacement on the Company-owned side and the property owner-side by likely separate contractors. The Company would need to inspect work completed by property owner-engaged contractors to verify work meets the Company's construction standards, adding additional coordination and complexity.

Q. HOW WAS THE COST ESTIMATE FOR THAT PROJECT DETERMINED?

A. As reflected above, CUII has estimated the construction and engineering cost for lateral replacements to be $2,000,000. This amount does not include the cost to televise all laterals in the system, which could be achieved either through home inspections or camera launches from the sewer main, or cost for data review to identify which laterals are candidates for

Laterals

replacement. A total of $342,092 and $358,967 are estimated for the 2022 and 2023 projects, respectively. CUII started the budget with a base amount for replacement and escalated it by 5% per year for anticipated Consumer Price Index ("CPI") increases. CUII plans to complete as many lateral replacements as possible within the estimate for each year.

Q. WHAT IS DRIVING THE NEED FOR THE TWIN LAKES LIFT STATION L FORCE MAIN REPLACEMENT?

A. The Lift Station L forcemain replacement will be completed to remove a hydraulic bottleneck in the Lift Station L forcemain. Removal of this bottleneck will increase the pumping capacity of Lift Station L. The Lift Station L forcemain is approximately 22,900 LF in length, nearly all (approximately 21,799 LF) of which is 12" Polyvinyl Chloride ("PVC") pipe. The remainder (approximately 1,101 LF) is 8" PVC. CUII engaged Baxter & Woodman, a consulting engineering firm, to perform an analysis on the benefits of replacing this section and/or cleaning the forcemain. The memorandum summarizing this analysis is provided as Attachment LG-6. From review of this analysis, CUII decided to replace the 8" section of forcemain to increase the pumping capacity of Lift Station L. Removing this 8" section will also provide CUII the ability to effectively clean (pig) the forcemain in the future. Previous investigations by CUII, identified that improvements to Lift Station L may be necessary in the future to prevent sewer overflows. Completing this project would improve the pumping capacity of Lift Station L at a lower cost than those possible future projects, potentially eliminating the need for or reducing the scope of those projects.

CUII Twin Lakes
Sanitary Sewer Service Replacement
Preliminary Engineer's Opinion of Probable Costs

Prepared by: PDS 5/31/2019
Checked by: BWM

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Notes

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3. Crossing depths assumed to be 8' and 10' for shallow and deep services, respectively
4. For services under driveways, restoration and trench backfill costs will be at least 2-3 times the cost of landscape restoration

COMMUNITY UTILITIES OF INDIANA, INC,

RESPONSE TO THE OUCC

DATA REQUEST LOFS 01.08

Witness Responsible:	Loren Grosvenor
Title:	State Operations Manager
Date Received:	April 14, 2021
Docket No.:	45651

LOFS 01.08

Referencing Mr. Grosvenor's direct testimony at pages 22-24, admit that:

a. CUII is proposing in this proceeding to include in base rates the costs for replacing sewer laterals that run from the facilities owned by CUII to the customer's home.
b. CUII presently requires the customer to pay for repairs or replacements of sewer laterals on the customer's side of the system.

If your response is anything other than an unqualified admission, please fully explain your [response].

RESPONSE:

a. Denied. CUII is only replacing laterals on the Company-owned side of the main.
b. Admit.

Attachment:

N/A

Date Response Provided: April 25, 2022

COMMUNITY UTILITIES OF INDIANA, INC,

RESPONSE TO THE OUCC

DATA REQUEST LOFS 01.09

Witness Responsible:	Loren Grosvenor
Title:	State Operations Manager
Date Received:	April 14, 2021
Docket No.:	45651

LOFS 01.09

If the IURC approves CUII's request to include in base rates the costs for repairing or replacing sewer laterals on the customer's side of the system,

a. does CUII propose that, following the repair or replacement, the sewer lateral on the customer's side of the system would remain the property and responsibility of the customer? If the answer is negative, please explain CUII's proposal for ownership of the sewer lateral on the customer's side of CUII's system following a repair or replacement included in base rates.
b. would CUII charge the customer for any portion of the repair or replacement work?

if the response to (b) is affirmative, please fully explain the amount of the proposed charges and the basis for said amount(s).

OBJECTION:

Petitioner objects to the foregoing request on the ground that it misstates CUII's proposal in this proceeding. Subject to and without waiving the foregoing objection, Petitioner submits the following response:

RESPONSE:

a. Petitioner incorporates herein by reference its response to LOFS Data Request No. 1.08.
b. Petitioner incorporates herein by reference its response to LOFS Data Request No. 1.08.

Attachment:

N/A

Date Response Provided: April 25, 2022

CERTIFICATE OF SERVICE

This is to certify that a copy of the ***Public's Exhibit No. 2– Testimony of James T. Parks on behalf of the OUCC*** has been served upon the following counsel of record in the captioned proceeding by electronic service on April 28, 2022.

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