



DEPARTMENT OF WATER WORKS

Pure Filtered Water

DISTRIBUTION CENTER
701 GRAND STREET
MICHIGAN CITY, INDIANA 46360
219/874-6683
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MAIN OFFICE
532 FRANKLIN SQUARE
P.O. BOX 888
MICHIGAN CITY, INDIANA 46361
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FILTRATION PLANT
111 LAKE SHORE DRIVE
MICHIGAN CITY, INDIANA 46360
219/872-4430
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June 3, 2025

Phoenix Investors
c/o John Peret, Director of Engineering/Design
401 E. Kilbourn Ave, Ste. 201
Milwaukee, WI 53202

RE: Project Maize Data Request

VIA: jperet@phoenixconstruction.us

Dear John,

The attached document is the information requested from the Department of Water Works by the client through Project Maize. Although some of the data provided is public information and discoverable via the Freedom of Information Act, the Department respectfully requests that the information be utilized by the parties of concern for this project, but not the general public.

The following are included:

- Completed Data Questionnaire;
- 2024 Department of Water Works Comprehensive Plan Executive Summary;
- Plant Treatment Process Flow Diagram;
- Local Water Main System Map;
- Water Quality Test Results from the Property, pulled May 29, 2025;
- Annual Consumer Confidence Reports of 2022, 2023 and the draft for 2024.

The following will be sent shortly under a separate email once fully compiled this week:

- One year of Plant Treatment Quality Control Test Results.

Thank you for your patience. I wanted to be sure to provide the most accurate information to Phoenix and your client.

Please contact me if there are any questions.

Sincerely,

Christopher Johnsen
Superintendent

Water and Wastewater Questions

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Water

- **Utility Profile**
 - What is the AHJs's water customer base comprised of?
 - Please see the following chart:

Class	Class Description	Customers	% of Customers	Demand (CCF)	% of Demand
1	Single Family In	10,855	72.73%	569,266	28.89%
9	Single Family Out	1,682	11.27%	91,594	4.65%
	Total Residential	12,537	84.00%	660,860	33.54%
2	Commercial	1,003	6.72%	305,076	15.48%
5	Multi-family	927	6.21%	927	0.05%
	Total Commercial	1,930	12.93%	306,003	15.53%
3	Industrial	91	0.61%	354,104	17.97%
4	Government	170	1.14%	291,245	14.78%
6	Irrigation	190	1.27%	58,201	2.95%
7	Resale	7	0.05%	299,813	15.22%
Total		14,925	100%	1,970,226	100%

- Please provide a copy of the utility's latest Water Master Plan (both treatment and conveyance)
 - Attached is a copy of the Executive Summary with a plan for system improvements.
- What is the size of the population (roughly, to the nearest 1000) served by the utility?
 - The Department directly serves approximately 36,375 and sells to utilities that serve up to 5,523. Overall, up to 42,000.
- **Municipal Water Supply, Treatment and Distributions**
 - **Source**
 - What is/are the source(s) for your potable water system?
 - Lake Michigan – 2 intakes
 - What is the capacity of each source?
 - One is permitted for 12.96 MGD, the other is permitted for 17.28 MGD for a total of 30.24 MGD
 - Would additional infrastructure would be needed to increase capacity in your system?
 - Expansion of the treatment plant.
 - Confirm you have adequate water rights to support projected supply capacities? If additional water rights were required, what does that acquisition process entail?
 - Department's permitted withdrawal far exceeds demands, even with this project added. In the event further withdrawal is required, the Department would present the request to the Indiana Department of Natural Resources and Indiana Department of Environmental Management.
 - **Water Treatment Plant**
 - What WTPs are available for project site use? If more than one, which would be the primary source? Please confirm the primary source:
 - There is only one treatment plant for the system.

- What is the design capacity of each WTP?
 - What are the average and peak flows of each water treatment plant?
 - The average treated water pumped into the distribution system in 2024 was 6.022 MG. The peak day in the last two years was 9.11 MG in 2023.
 - What is the available capacity of each WTP?
 - The plant operates at a maximum capacity of 20 MGD based on filter rates; however, the filter rates can be increased and the official rating of the facilities is 30 MGD. The facility has adequate pumping, treatment and piping from the facility to allow this higher number.
- Are there any plans to upgrade WTPs in the next 5-10 years?
 - There are plans identified in the Executive Summary of the Comprehensive Plan.
- What are the treatment processes associated with potable water? Please provide plant(s) site layout and process flow diagram(s)?
 - Our publicly available process flow diagram is attached.
 - The plant site layout is considered sensitive information per the Critical Infrastructure Information Act of 2002. This can be discussed further. We do welcome the opportunity to host a tour of the facility, if there is interest.
- **Water Distribution System**
 - What is the available capacity of the water main/s that will serve our site?
 - What is the Day 1 available capacity at the connection point to the site?
 - On day 1, there is a 4-inch meter and a 6-inch meter to the existing building. The 4-inch meter will be replaced due to its age. The 6-inch meter will need tested for accuracy since it has been relatively dormant for several years. These expenses will be the Department's responsibility. The two meters together are capable of a short-term maximum flow of 3,000 gpm and a continuous flow of 2,300 gpm. The condition of plumbing after these meters is unknown and the responsibility of the property owner. It is also the responsibility of the property owner to ensure that there are reduced pressure zone backflow preventers installed immediately following the meters. The devices must meet Indiana's requirements. The initial tests by a State certified tester must be entered into our third-party management database at www.TrackMyBackflow.com.
 - Is there any anticipated allocation from these water main/s to future development

- The private main on the property only serves the property. The Department main is part of the grid system and is looped into other mains. The Department has no set allocations of supply from its grid system. There are restrictions for max purchase by the four resale customers, none of which have ever purchased near the max volume.
- What other potential industrial and/or commercial users will be serviced on main/s serving the site?
 - At this time there are no plans for other industrial or commercial near this facility, nor are there undeveloped properties currently zoned for such development near this property.
- Can you provide the “break-points” in your water system when an infrastructure upgrade would be required and the estimated cost to the Project required to unlock additional capacity?
 - Due to the excess capacity available, there is no planned “break point” to increase capacity. However, if the decision was made to increase the filter rates to allow for the possibility of 30 MGD because the treatment facility was regularly nearing the 20 MGD planned treatment rate, a plan for expansion would be developed and scheduled.
- How many pressure zones are there in your system?
 - There are 3 pressure zones. We are investigating a fourth, but the final plan will be planned to have no negative impact on your facility and projected demands.
 - What is the minimum pressure in our site’s pressure zone? Is this guaranteed?
 - We do not have specific pressure measurements on the property. However, in testing the fire flow of the water main upon which the service to this building is tapped, a static pressure of 46 psi was measured. The hydrant where this was measured sits approximately 3.5 feet higher in elevation than the test point. Consequently, the static pressure at the facility should be at 47 psi on attached fire hydrants, and approximately 46 psi at grade within the building. The Department system design follows the 10-state standards of a minimum design pressure of 35 psi, and an operational minimum pressure of 20 psi before a Boil Water Advisory would be issued.
- What is the storage capacity in your system?
 - All storage combined is 6.6 MG.
 - Is this underground or above ground/elevated?
 - Combination of elevated and underground.
 - What is the storage capacity in the pressure zone our site is in?

- The full storage capacity is available. 3.6 MG is initially available to the zone. The other 3 MG is usually for a different pressure zone, but there are capabilities to allow the pumps in that pressure zone to send water back into the main pressure zone.
- Can you provide a water system map? -
 - The water system map is considered sensitive information per the Critical Infrastructure Information Act of 2002. I am providing a basic map of the lines surrounding the property, but not the full map. This can be discussed further.
- **Water Quality**
 - Is there water quality data available for any/all sources available for the site (preferably at the nearest distribution line)? If so could you provide the last 3 years of water quality data?
 - The Department had not been pulling samples at this site specifically. Our Water Quality Supervisor pulled a sample on Thursday, May 29 and tested for several of the bench tests that the Department has the ability to run. The results of that test are attached. I am including our 2022 through 2024 Consumer Confidence Reports, as well.
 - Please provide available finished water quality from each WTP.
 - Data, especially the constituents of the Langelier's Index, is being compiled and will be sent separate of the rest of this report. A full year of data will be compiled, showing how the different seasons impact the water quality from the WTP. More information is available, and could be supplied upon request.
- **Supply Costs**
 - What are the costs/fees of both potable including capacity reservation costs and connection fees?
 - Since the property already has service, there would be no connection fees unless additional taps are needed. In that instance, the property owner would excavate the private main and the Department would provide materials and install the additional taps. The materials and labor for that tap and an additional meter, if needed, would be estimated on a time and material basis and paid to the Department prior to the work. If the cost of the work is less than the amount paid, a refund of the difference will be provided. If it costs more than estimated, the Department will bill the difference. The estimates are conservative so as to prevent the request for additional funds. The actual rates charged for service can be found at:
<https://emichigancity.com/DocumentCenter/View/2357/NEW---Department-of-Water-Works-Rates-Effective-July-1-2022>

- Can we have a privately owned and maintained fire water system and hydrants on site or does the utility need to own and maintain the system?
 - The water mains and hydrants on the site are already private. No additional taps are allowed without the Department's involvement, but the property owner is responsible for the maintenance and repairs of the water main and hydrants on private property. Any changes will need to be discussed and authorized by the Department.
- Where does the water utility require the water meter to be placed? If at the buildings, is an easement required for the incoming service?
 - The recommendation is to take advantage of the existing service meter locations. If additional feeds into the building are required, that would be discussed as needed. It is recommended that when the time comes that water cooling is being installed, it would be wise to add a secondary connection to the Department's mains from the private main around the property. This would then offer two potential service supplies to the property. Other critical users, such as the hospital have two feeds to their property.
- **Resilience and Reliability**
 - Are there any water shortage management plans, drought management plans, master plans, or offsite improvement requirements established that are applicable to the site?
 - Due to Lake Michigan as source of supply, the excess capacity available, and operational redundancies, the Department does not have any plans in place to restrict water service due to drought or water shortage.
 - Have there been water use restrictions or boil water notices in the last 10 years?
 - The only thing we have had are localized Boil Water Advisories due to main shut-downs resulting from main breaks or construction.
 - Has the utility completed a Risk and Resilience Assessment (RRA), and subsequent Emergency Response Plan (ERP) as per American Water Infrastructure Act (2018)?
 - Yes. The RRA was last completed 6/16/2021. The ERP was last completed 12/15/2021. Necessary updates have been completed, but the full product is scheduled for review and update in 2026.
 - If yes, what were any key system weaknesses or system vulnerabilities identified (can respond abstractly to limit disclosure)?

- The five areas of concern for likely events that could create significant issue, whether financially or impacting the ability to serve customers, included the following:
 - Accidental or intentional contamination;
 - IT Infrastructure hacked;
 - Pipe damage or failure to single feed areas that have significant numbers or criticality of customers;
 - Significant illness or fatality caused by pandemic;
 - Natural disasters, particularly tornados.
- What were the mitigation measures identified to address these?
 - The specific details of the mitigation measures are not public information. However, the Department did identify 32 Mitigation Initiatives within 4 main areas:
 - Elements of an ERP Update – mitigations that develop organically through the process of developing an ERP;
 - Improved Detection of Contamination;
 - Cyber;
 - Additional Preparedness Measures;
 - What is the timeline for completion of these measures?
 - The timelines are varying based on how complicated the measure was, or how far along the Department was with the measure as the report was generated. Some measures never are completed, and some are connected to items in the Comprehensive Plan.
- What were some significant system upgrades addressing risk and resilience identified in the RRA as having been executed since previous Vulnerability Assessment?
 - The actual Vulnerability Assessment was saved in a location where the previous Superintendent could not find it. The 2021 RRA was done without referencing the previous VA.
- Did RRA adhere to the AWWA J100-10 Standard for Risk and Resilience Management of Water and Wastewater Systems? If not, what standard was used?
 - Yes J100 was used.
- If RRA/ERP have not been completed, what is the timeframe to complete it?
 - N/A
- Are there any residents, businesses, water users, environmental groups or others that might be concerned with a light industrial user utilizing water in the area?

- Not that we are aware of, in fact, I believe most local residents will be happy that this facility is in use.
- **Alternate Sources**
 - Are there other potential water sources?
 - System-wide, no. The Department could hire water trucks or request support from the Indiana National Guard and purchase from neighboring communities, assuming that they have not had the same level of calamity that would cause the Department to not be able to provide service.
 - **Groundwater**
 - Has an aquifer analysis been done for the region? If so, what is the maximum output from the aquifer? Or what is the maximum amount you can reasonably pull from the aquifer without changing the recharge?
 - N/A
 - **Reclaimed Water**
 - What is the distance from alternate source to the WWTP and is there a reclaimed water conveyance/distribution system in place?
 - N/A
 - Is reclaimed water supplied by the same WWTP that would receive site discharge?
 - N/A
 - What are the treatment processes associated with reclaimed water?
 - N/A
 - Please provide details of the source of the reclaimed water. Can the AHJs provide information to ensure that reliability and redundancy do not pose a risk?
 - N/A

Wastewater

- **Utility Profile**
 - What is the AHJs's wastewater customer base comprised of?
 - Please provide a copy of the utility's:
 - Annual report
 - Latest bond offerings or financial statement
 - Latest Wastewater Master Plan (treatment, collection and disposal)
 - What is the size of the population (roughly, to the nearest 1000) served by the utility?

- **Wastewater System**

- **Wastewater Conveyance System**

- Confirm the Day 1 available capacity at the connection point for any sewer lines that would serve the site.
 - Can you provide the “break-points” in your wastewater system where an infrastructure upgrade would be required along with estimated cost to Project? (i.e. Once industrial demand reaches 1 MGD - the pipe main servicing the site would need to be upgraded at xx cost in xx length of time).
 - Will we need to pump to the WWTP plant or just gravity flow to the nearest sewer main?
 - What is the available capacity for any pump stations that would serve the site?
 - Are there any regional pump stations between the site and the WWTP?
 - Are there any other Pump Stations between the site and the WWTP?
 - What are the average and peak inflows to the WWTP?
 - Do you have a wastewater system map available?
 - What other potential industrial and/or commercial users will be serviced on both the main sewer lines serving the site?

- **Wastewater Treatment Plant**

- What WWTPs are available for project site use? Where are they located in relation to the site? If more than one, which would be the primary discharge plant? What are the average and peak flows of each wastewater treatment plant? Please Confirm
 - What is the design capacity of each WWTP? Please Confirm
 - What is the available capacity of each WWTP?
 - Please provide plant(s) site layout and process flow diagram(s)?

- **Pretreatment Discharge Standards**

- Are there any discharge restrictions for wastewater, including sewer quality limitations? What is the permitting process?
 - Does the utility operate an approved pretreatment program?
 - Please provide available local limits approved for the pretreatment program?

- **WWTP Water Quality and Discharge**

- What is the water body each WWTP discharges to?
 - What is the 7Q10 flow for each water body?
 - Please provide the NPDES permit.
 - Please provide available final effluent water quality for each WWTP.

- **Service Costs**

- What are the costs/fees for connecting to the wastewater system?
 - Are there impact costs for large discharges?
 - Potential for capacity reservation?

- How does the AHJs handle wastewater metering?
- **Resilience and Reliability**
 - Please provide available resilience and reliability plans.
 - Please provide available asset management plans.
- **Alternate Discharge Options**
 - Is the AHJs aware of any alternate options for discharging industrial non-contact cooling water (eg. infiltration basins, discharge to natural water bodies etc.)?
 - Direct discharge
 - Infiltration basins
 - Deep well injection (UIC Well)
 - What are the permitting aspects of these options?
 - Who is the AHJ responsible for permitting these options?

General

1. What is the approval process for water and wastewater infrastructure projects?

EXECUTIVE SUMMARY

Michigan City is a community of approximately 32,000 people located in northwest Indiana, bordering Lake Michigan. The City's Department of Water Works is responsible for producing, treating and delivering potable water throughout the community and to a number of surrounding areas and wholesale customers. The Department of Water Works is authorized by the Indiana Department of Natural Resources to withdraw up to 30 million gallons per day (MGD) from Lake Michigan. The Department of Water Works has a surface water treatment plant capable of producing 20 MGD. For the time period of 2017 – 2022, the City's average daily production was just over 5.4 MGD and their maximum day was 9.7 MGD. The following report provides a description of their existing facilities, the water system improvement projects that the Department of Water Works has completed over the past 25 years, and a summary of the additional improvements needed to ensure that the Department can continue producing and delivering safe and reliable drinking water in compliance with current and future water treatment regulations over the 20-year planning period.

Existing Facilities

The Department of Water Works has two submerged raw water intakes through which they draw water from Lake Michigan. Low lift pumps are used to pump raw water into the Department of Water Works' surface water treatment plant. The raw water intakes and the low lift pumping facilities are capable of delivering 30 MGD water supply into the treatment plant; however, the treatment plant is currently rated for 20 MGD.



Michigan City's Water Treatment Plant

The treatment plant, built in three phases between 1934 and 1959, is a conventional surface water treatment plant utilizing flocculation, sedimentation, filtration, and disinfection treatment systems. Alum, fluoride, chlorine and ammonia chemical storage and feed facilities are housed in the treatment plant and used in the water treatment and disinfection processes. High service pumps are used to pump the treated water from the plant into the distribution

system. The distribution system was built over the last century out of cast and ductile iron water mains that range in size from 4-inch to 30-inch in diameter.

The distribution system is divided into three pressure zones. Water from the water treatment plant is pumped directly into the larger, low-pressure zone which extends from the Michigan Lake shore south to State Highway 20 in the northern portion of the City. The south, high pressure zone extends from State Highway 20 down to Interstate 94. The Department of Water Works currently has two elevated storage tanks with a combined capacity of 2.0 million gallons in the low-pressure zone, as well as a 3.0 million gallon ground storage tank used in conjunction with the Pahs Road Booster Station to deliver water into the high pressure zone. The Department of Water Works also has a small booster station on the west side of their service area used to increase the water pressure in the Town of Beverly Shores.

Over the past 35 years, the Department of Water Works, by and through its Board of Directors, has systematically planned and implemented a series of improvement projects to rehabilitate and or replace portions of the production, treatment, storage and distribution system components. Those improvements included the following:

- Intake Maintenance and Modifications – 1991
- South Boiler Replacement – 1993
- Phase I Water System Improvements – 1994
- Pahs Road Booster Station Generator – 1999
- Hitchcock Elevated Water Storage Tank – 2000
- Phase II Water System Improvements – 2000
- East Intake Extension – 2006
- Onshore Intake Replacement Phase I – 2006
- Onshore Intake Replacement Phase II – 2007
- Onshore Intake Access Structure – 2008
- Phase III Water System Improvements – 2011
- Pahs Road Booster Station Improvements – 2012
- Phase IV Water System Improvements – 2017
 - High Service Pump Improvements
 - Chlorine Facility at Beverly Shores Booster Station
 - Pahs Road Tank Repairs
 - Pahs Road Tank Mixing System
 - 1934 & 1951 Basin Rehabilitation
 - Backwash Residuals Thickener Rehabilitation
- West Intake Extension – 2017
- Corrosion Control Chemical System – 2020

During the same period, the Department of Water Works has also installed new water mains throughout the community to address deficiencies and to supply water to areas that were previously not served.

Need for Improvements

To ensure the Department of Water Works can continue to produce and deliver potable water to meet the community's needs, the following improvements are needed:

- Replacing / Upgrading Aging Infrastructure
- Planning for future development and extension of water system
- Improving water quality
- Improving system pressures
- Additional storage capacity

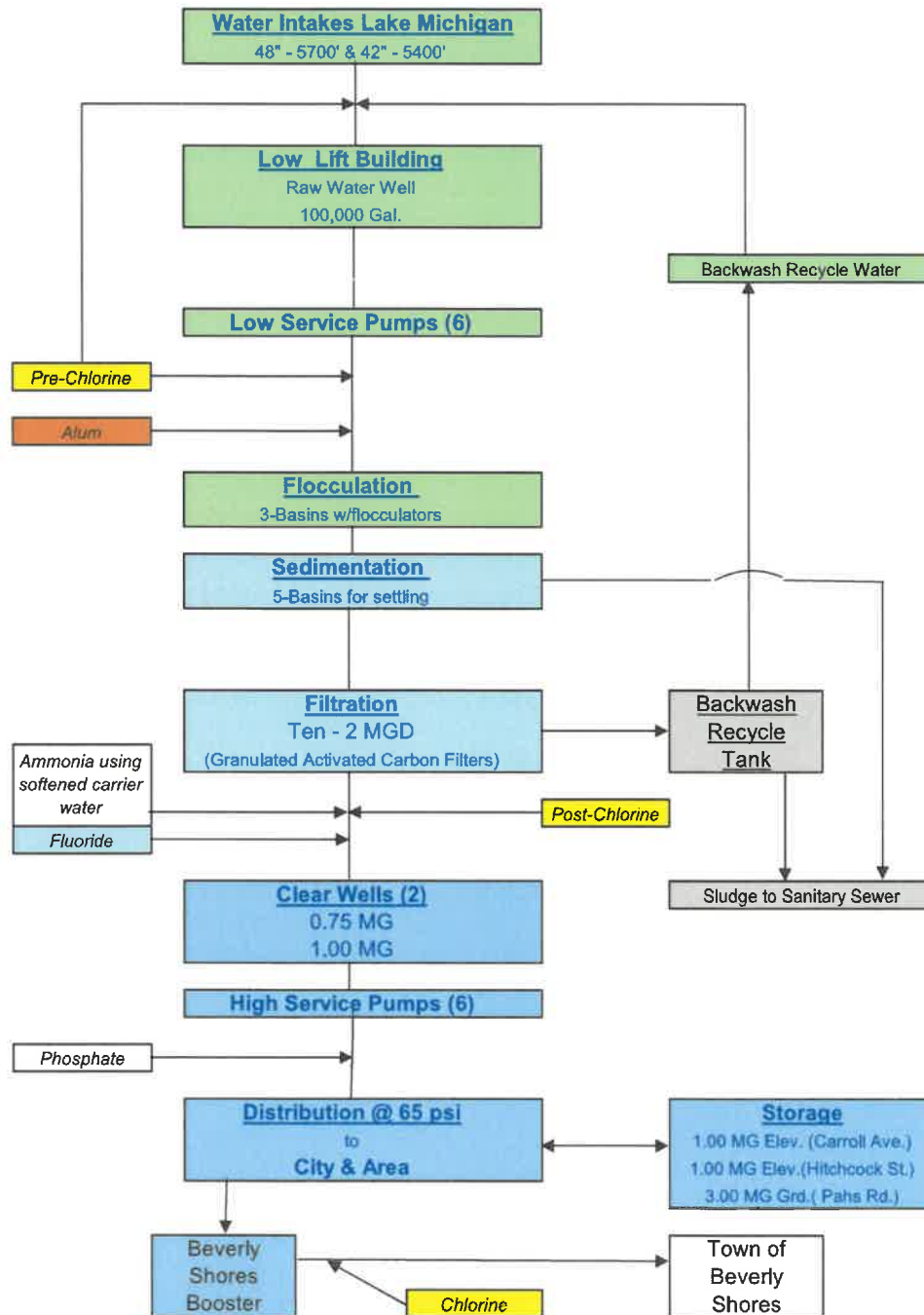
Capital Improvements

Numerous work sessions were held with Department personnel to review and prioritize the planned capital improvements. The distribution system improvements were prioritized based on their relative need for meeting customer demands, delivering needed fire flows, maintaining distribution system water quality, and improving system reliability. The capital improvements at the treatment plant, storage tanks, and booster stations were prioritized based on their relative need for protecting and maintaining water quality, compliance with state and federal regulations, protecting Department of Water Works personnel, criticality to system reliability, improving security, potential for operational savings, and for reducing maintenance. The results of the prioritization were taken into consideration and are reflected in the position of the various capital improvements in the final Capital Improvement Plan shown in **Table 1**. The Plan should serve as a framework for future improvements in Michigan City's water system that are needed to accomplish the planning objectives.

Table 1 - Capital Improvements Plan												
Item No.	CIP Item	Priority	Total Project Cost	2024	2025	2026	2027	2028	2029-2034	2034-2044		
Water Treatment Plant												
6.1.1.1	HVAC Comprehensive Study	1	\$ 10,400			\$ 10,400						
6.1.1.4	Replace Low Lift Pump and Motors: Install VFDs	1	\$ 764,000			\$ 764,000						
6.1.1.5	Cover Basins	1	\$ 1,747,000			\$ 390,000	\$ 1,357,000					
6.1.1.2	Roof Replacement on North Pumping Building	2	\$ 880,000			\$ 880,000						
6.1.1.3	Laboratory Re-Model	2	\$ 134,000			\$ 134,000						
6.1.1.6	Filter Condition Assessment	2	TBD	TBD								
6.1.1.7	Replace Wet Scrubber with Dry Scrubber	3	\$ 400,000				\$ 400,000					
6.1.1.8	Water Treatment Plant Garage Upgrades	3	\$ 671,000					\$ 671,000				
6.1.1.9	Pahs Road Booster Station Electrical Improvements	4	\$ 458,000							\$ 458,000		
6.1.1.10	Water Treatment Plan Energy Audit	4	TBD			\$ 25,000						
6.1.1.11	Filter Building Lighting Panel Replacement	4	\$ 20,000		\$ 10,000	\$ 10,000						
Distribution												
6.1.2.19	Lead Service Line Replacement Program	1	\$ 2,950,000	\$ 1,350,000	\$ 1,600,000							
6.1.2.20	Annual Water Main Replacement Program	1	\$ 60,000,000	\$ 3,000,000	\$ 3,000,000	\$ 3,000,000	\$ 3,000,000	\$ 3,000,000	\$ 15,000,000	\$ 30,000,000		
6.1.2.18	Extension to INDOT Rest Stop on I-94	1	\$ 3,710,000	\$ 742,000	\$ 2,968,000							
6.1.2.3	Southwind Dr., Kieffer Road north to Westwind Drive	1	\$ 570,000	\$ 113,000	\$ 457,000							
6.1.2.9	US 20 - Johnson Road to IN 212	1	\$ 3,420,000		\$ 2,002,000	\$ 1,418,000						
6.1.2.4	Thomas St., Carroll Ave., Woodland to Tank	2	\$ 3,890,000		\$ 783,500	\$ 3,106,500						
6.1.2.13	Meer Road CSS & SBRR South to Warnke Road	2	\$ 3,050,000				\$ 610,500	\$ 2,439,500				
6.1.2.14	Meer Road, Michigan Boulevard north to Warnke Road	2	\$ 3,710,000				\$ 742,000	\$ 2,968,000				
6.1.2.5	US 20, Pahs Road, Johnson Road	3	\$ 5,460,000					\$ 1,095,500	\$ 4,364,500			
6.1.2.8	Woodland Ave. and CR 400 N	3	\$ 3,790,000						\$ 3,790,000			
6.1.2.6	CR 400 N, County Line Road, Hitchcock St.	4	\$ 6,310,000						\$ 6,310,000			
6.1.2.7	Earl Rd. & Country Line Road	4	\$ 5,520,000						\$ 5,520,000			
6.1.2.12	Lake Shore County Road & US 20	4	\$ 2,680,000						\$ 2,680,000			
6.1.2.15	US 421 Corridor - W 300 N, County Line Road	4	\$ 7,610,000						\$ 7,610,000			
6.1.2.17	US 35 and I-94 Interchange	4	\$ 10,100,000						\$ 10,100,000			
6.1.2.1	US 20 and Ohio Street	5	\$ 1,280,000							\$ 1,280,000		
6.1.2.2	US 20 at Evergreen Plaza	5	\$ 1,280,000							\$ 1,280,000		
6.1.2.10	US 12, County Line Road to Washington Street	5	\$ 9,940,000							\$ 9,940,000		
6.1.2.11	Welnetz Road and Pinetree Drive	5	\$ 3,710,000							\$ 3,710,000		
6.1.2.16	US 421 Corridor - US 421 South of I-94	5	\$ 9,640,000							\$ 9,640,000		
Storage Tanks & Booster Stations												
6.1.3.2	Eastwood Ground Storage Tank & Booster Station	1	\$ 7,982,000			\$ 1,597,000	\$ 6,385,000					
6.1.3.5	Beverly Shores Ground Storage Tank	1	\$ 1,413,000				\$ 443,000	\$ 970,000				
6.1.3.1	Southside Elevated Storage Tank	3	\$ 7,288,000					\$ 1,458,000	\$ 5,830,000			
6.1.3.3	Chlorine and Ammonia Facilities at Pahs Road Booster Station	3	\$ 1,001,000						\$ 231,000	\$ 770,000		
6.1.3.6	Ammonia Facility at Beverly Shores Booster Station	3	\$ 390,000							\$ 390,000		
6.1.3.4	West Booster Station	5	\$ 4,448,000					\$ 1,050,000	\$ 3,398,000			
6.1.3.7	Existing Storage Tank Improvements from Recent Inspections	5	\$ 38,000		\$ 38,000							
Miscellaneous												
6.1.4.3	Distribution Garage Addition	1	\$ 660,000			\$ 660,000						
6.4.1.2	Office Facility Needs Assessment	1	TBD	TBD								
6.1.4.1	Remodel / Relocate Office Space	2	\$ 1,500,000		\$ 1,500,000							
Total Estimated Cost / year			\$	5,205,000	\$	12,358,500	\$	11,994,900	\$	12,497,100	\$	6,086,600

DEPARTMENT OF WATER WORKS

WATER FILTRATION PLANT



MICHIGAN CITY, INDIANA
46360

PROJECT MAIZE – WATER MAIN MAP





DEPARTMENT OF WATER WORKS

Pure Filtered Water

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June 2, 2025

RE: Chemical Analysis Water Sample - (Michigan City Department of Water Works)

To Whom It May Concern/Phoenix Investors,

On 5/29/2025, the Michigan City Department of Water Works took a water sample from a service located at 402 Royal Road, the chemical breakdown of this analysis is located on sample results page.

If you should have any questions or concerns please feel free to contact the Water Filtration Plant.

Timothy Krachinski
Water Quality Supervisor
Michigan City Department of Water Works
219-872-4430

PWSID# 5246020

Michigan City Department of Water Works Sample Results

Site: 402 Royal Road

PWSID# 5246020

Sample ID: Private Hydrant Rear of Building

Date Collected: 5/29/2025 1:30 PM

Date Tested: 5/29/2025 3:30 PM

General Chemistry

Analyte	Results	Unit
Chlorine	1.2	mg/L
Total Hardness	130	mg/L
	7.6	GPG
Calcium Hardness	86	mg/L
	5.03	GPG
Iron	0.05	mg/L
Alkalinity	93	mg/L
Total Dissolved Solids	144	mg/L
P.H.	7.2	
Phosphate	0.9	mg/L
Fluoride	0.7	mg/L
Nitrate	0.6	mg/L
Nitrite	0.015	mg/L

*Temperature at time of analysis - 18.6 C.

Water Quality Report 2022
Department of Water Works Michigan City, Indiana
PWSID IN5246020

Message from the Superintendent

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Monitoring & Measuring Contaminants

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Other Related Data

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Water Quality Analysis

The chart that follows the definitions lists the highest recorded level in Michigan City in 2022 and the highest allowed by the USEPA. Michigan City water has met all EPA requirements.

Definitions

MCL: Maximum Contaminant Level, the highest level of a contaminant that is allowed in drinking water, if applicable.

MCLG: Maximum Contaminant Level Goal, the level of a contaminant in drinking water below which there is no known or expected risk to health, if applicable.

MRDL: Maximum Residual Disinfectant Level, the highest level of disinfectant allowed in drinking water.

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AL: Action level, the concentration of a contaminant, which if exceeded, triggers treatment or other requirements, which a water system must follow.

TT: Treatment Technique, a required process intended to reduce the level of a contaminant in drinking water.

NTU: Nephelometric Turbidity Unit, is the measure of clarity of the water

mg/l: milligrams per liter, a measurement for concentration equivalent to ppm = one part per million

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P*: Potential violation, one that is likely to occur in the near future, subject to other applicable requirements.

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TT:** **Special Note on Turbidity:** The turbidity treatment technique (TT) requires that at least 95% of the total combined effluent turbidity samples shall not exceed 0.3 NTU (1.0 NTU for slow sand and diatomaceous earth filtration systems). At least 95% is required to be in compliance. In addition, the maximum turbidity level cannot exceed 1.0 NTU at any time.

Date	Contaminant	MCL	MCLG	Unit	Result	Min	Max	Sites over AL	Violation	Likely Sources
2022	Barium	2	2	mg/L	0.021	0.021	0.021		No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
2022	Fluoride	4	4	mg/L	0.78	0.78	0.78		No	Water additive that promotes strong teeth; Erosion of natural deposits; Discharges from fertilizer and aluminum factories.
2022	Nitrate-Nitrite (as N)	10	10	mg/L	0.41	0.41	0.41		No	Erosion of natural deposits; Runoff from fertilizers; Leaching from septic systems and sewers.
2022	Sodium	N/A	N/A	mg/L	8.9				No	Metals; Erosion of natural deposits.
2022	Chromium	100	100	ug/L	0.94	0.94	0.94		No	Byproduct of drinking water chlorination
2022	Total Trihalomethanes	80	0	ug/L	12	5.9	17.4		No	Byproduct of drinking water chlorination
2022	Total Haloacetic Acids	60	0	ug/L	1	0	3.7		No	Byproduct of drinking water chlorination
2022	Chloramines	MRDL = 4	MRDLG = 4	mg/L	1	1	1		No	Water additive used to control microbes
2022	Total Organic Carbon	TT	TT	mg/L	1.34	0.684	1.55		No	Naturally present in the environment
2022	Turbidity (lowest percentage)	TT**	TT**	%	96.7%	96.7%	100%		No	Soil runoff
2022	Turbidity (Maximum level)	1	1	NTU	1.00	0.03	1.00		No	Soil runoff
Valid until 12/31/2023	Lead (90th percentile)	15 (AL)	0	ug/L	3	ND	9.1	0	No	Corrosion of household plumbing systems; Erosion of natural deposits
Valid until 12/31/2023	Copper (90th percentile)	1.3 (AL)	1.3	mg/L	0.23	ND	1.17	0	No	Erosion of natural deposits; Corrosion of household plumbing systems; Leaching from wood preservatives



Michigan City Department of Water Works

Water Quality Report 2023

PWSID IN5246020

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Date	Contaminant	MCL	MCLG	Unit	Result	Min	Max	Sites over AL	Violation	Likely Sources
3/20/2023	Barium	2	2	mg/L	0.019	0.019	0.019		No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
3/20/2023	Fluoride	4	4	mg/L	0.73	0.73	0.73		No	Water additive that promotes strong teeth; Erosion of natural deposits; Discharges from fertilizer and aluminum factories.
3/20/2023	Nitrate-Nitrite (as N)	10	10	mg/L	0.37	0.37	0.37		No	Erosion of natural deposits; Runoff from fertilizers; Leaching from septic systems and sewers.
7/31/2023	Dibromochloromethane	0.1	0	mg/L	0.0041	0.0022	0.0041		No	Byproduct of drinking water chlorination
8/6/2018	Radium-228	5	0	PCl/L	0.72	0.72	0.72		No	Erosion of natural deposits
2022-2023	Total Trihalomethanes	80	0	ug/L	18	12.6	25.1		No	Byproduct of drinking water chlorination
2022-2023	Total Haloacetic Acids	60	0	ug/L	12.5	ND	52.5		No	Byproduct of drinking water chlorination
2023	Chloramines	MRDL = 4	MRDLG = 4	mg/L	1	0.23	2.4		No	Water additive used to control microbes; At least 40 samples per month per Total Coliform Rule
8/7/2023	Total Organic Carbon	TT	TT	mg/L	1.49	1.28	1.63		No	Naturally present in the environment
2023	Turbidity (lowest percentage)	TT**	TT**	%	99.0%	99.0%	100%		No	Soil runoff
2023	Turbidity (Maximum level)	1	1	NTU	1.00	0.03	1.00		No	Soil runoff
2023	Lead (90th percentile)	15 (AL)	0	ug/L	1.9	ND	21	1	No	Corrosion of household plumbing systems; Erosion of natural deposits
2023	Copper (90th percentile)	1.3 (AL)	1.3	mg/L	0.24	0.0018	0.86	0	No	Erosion of natural deposits; Corrosion of household plumbing systems; Leaching from wood preservatives

UCMR-5: Forever Chemicals

In the year 2023, the USEPA, for the fifth time, under the Unregulated Contaminant Monitoring Rule (UCMR-5), selected several contaminants that could be in drinking water and that have the potential to pose a health threat to people consuming the water. As a water system with more than 10,000 customers, the Department was required to monitor for these contaminants quarterly beginning in May of 2023.

The contaminants of concern included Perfluorinated and Polyfluorinated Alkyl Substances and Perfluorinated Alkyl Acids, commonly known as PFAS or PFOS. These chemicals have been used in many everyday items, such as Teflon, fire-retardant clothing, and fire-fighting foam. These chemicals have been discovered to not break down over time like many other chemicals do. Therefore, these chemicals have been called "Forever Chemicals". There were a total of 29 variations of these chemicals included. In addition to these chemicals, lithium was tested, due, in part, to the sharp increase in the use of lithium battery technology.

In addition to the EPA-mandated UCMR-5 sampling of our finished water, the Indiana Department of Environmental Management sampled our finished water and Lake Michigan water for the PFAS/PFOS contaminants. The Department of Water Works also pulled extra samples of the lake water before treatment and the water through various points within our treatment process. We are happy to announce that all samples of finished water tested below the minimum detection level of the tests. We are also happy to report that the levels found in Lake Michigan were very low, and that the water treatment process that removes these contaminants from the finished water does not release the contaminant to the Sanitary District.



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2023-2024	Total Haloacetic Acids	60	0	ug/L	13.1	ND-3.9		No	Byproduct of drinking water chlorination
2024	Chloramines	MRDL = 4	MRDLG = 4	mg/L	1	2-2.5		No	Water additive used to control microbes; At least 40 samples per month per Total Coliform Rule
3/11/2024	Total Organic Carbon	TT	TT	mg/L	2.26	1.45-2.26		No	Naturally present in the environment
2024	Turbidity (lowest percentage)	TT**	TT**	%	98.0	1		No	Soil runoff
2024	Turbidity (Maximum level)	1	1	NTU	0.19	0.02-0.19		No	Soil runoff
2023	Lead (90th percentile)	15 (AL)	0	ug/L	1.9	ND-21	1	No	Corrosion of household plumbing systems; Erosion of natural deposits
2023	Copper (90th percentile)	1.3 (AL)	1.3	mg/L	0.24	0.0018-0.86	0	No	Erosion of natural deposits; Corrosion of household plumbing systems; Leaching from wood preservatives

Violations:

During the period covered by this report, the Department had one violation. Per the Consumer Confidence rule, the Department is required to submit a copy of the CCR to the State by July 1. The Department did not submit the CCR for the year 2023 to the State until July 15, 2024. This violation was a documentation oversight, but in no way jeopardized the safety of the water supplied by the Department.

UCMR-5: Forever Chemicals – PFAS and PFOS

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