



Village Advisory Committee
March 25, 2025

AGENDA

1. Review Town Hall Exit Survey Report – insights and feedback from March 13th attendees (attached)
2. Review Working FAQ Document – **will be provided at meeting**
3. Discuss Action Items Related to Water Tower
 - a. Top 10 Customer List (attached)
 - b. Watermain installation schedule (attached)
 - c. Water Tower Timeline (attached)
 - d. Water Tower location explanations - **will be provided at meeting**
 - e. Drone Footage from top of tower at Camp Jim B site
 [Camp Jim B Tower Location 11_20_2024 - Made with Clipchamp.mp4](#)
 - f. Water tower 3-D renderings underway – three views will be evaluated (attached)
 - g. Comparison purposes – street views of cell tower located at Camargo Club (attached)
 - h. Financial Comparisons – **will be provided at meeting**
4. Discuss Action Items Related to PFAS
 - a. PFAS timeline (attached)
 - b. Preliminary PFAS concept plan (attached)
 - c. Home Water Filtration Options (attached)
 - d. Purpose is not to debate effects/politics of PFAS but to implement mandate
5. Brainstorm Improvements for Next Town Hall
 - a. Communicate Q/A timeframe – refer to FAQ, talk after meeting, schedule time to meet
6. Other Items

Summary Report: Indian Hill Water Works Town Hall Exit Survey

Prepared for: Village of Indian Hill

Date: March 19, 2025

I. Overview

The Village of Indian Hill conducted a town hall meeting on March 13, 2025, to discuss the future of Indian Hill Water Works (IHWW) and gather community feedback. Following the event, attendees were asked to complete an exit survey to assess their understanding of the topics discussed, gauge their concerns, and collect suggestions for future engagement.

This report summarizes key findings from the survey, including attendee demographics, knowledge improvement, major concerns, recommended actions, and feedback for future town halls.

II. Survey Respondents & Engagement

Attendee Connection to Indian Hill

- Residents – 10 respondents
- Water Customers Outside Village – 1 respondent

How Attendees Learned About the Town Hall

- Village Newsletter – 9
- Letter in the Mail – 1
- Friend/Neighbor – 1

Preferred Communication for Future Updates

- Email Updates – 7
- Mailed Newsletter – 5
- Additional Town Halls or Meetings – 3

Action Item: Prioritize email updates and mailed newsletters while continuing to offer town halls as an engagement tool.

III. Knowledge & Understanding

Prior Knowledge of IHWW System

- Not Very Informed or Not Informed At All – 5 respondents
- Somewhat Informed – 4 respondents
- Very Informed – 1 respondent

Post-Town Hall Understanding

- Much Clearer Understanding – 6 respondents
- Somewhat Clearer – 5 respondents

Key Takeaway: The town hall successfully improved public understanding, though some attendees still need further clarity on specific issues.

IV. Topics Requiring More Information

Respondents were asked which topics they needed more information on. Top responses:

- Financial Impacts & Rate Considerations – 6
- Regulatory Mandates (EPA & PFAS Compliance) – 5
- Infrastructure Needs & Upgrades – 5
- Water Tower Location Considerations – 4
- Health & Safety of the Water Supply – 3

Action Item: Future communication should focus on financial considerations, regulatory requirements, and infrastructure improvements.

V. Key Concerns Expressed by Attendees

1. Water Quality & Health Risks

- Concern about PFAS levels and regulatory compliance.
- Need for a side-by-side comparison of Indian Hill Water vs. Cincinnati Water in terms of quality, safety, and treatment capabilities.

2. Financial Impact & Cost Transparency

- Concern that rates have increased significantly over the past five years and may continue to rise.
- Need for better explanation of funding sources and potential rate changes for residents.
- Question about whether Madeira's departure affects long-term affordability.

3. Redundancy & System Control

- Desire to maintain control of the water system rather than rely on an external provider like GCWW.
- Some attendees felt the value of redundancy (IHHW as primary, GCWW as backup) was not clearly communicated.
- Concern that vocal opposition could push the Village toward full GCWW adoption, which some see as risky.

4. Water Tower Concerns

- Concern about the visual impact of a new water tower.
- Suggestion to offer financial incentives (e.g., water discounts, tax reductions) to impacted residents.
- Need to explain why other water tower sites were rejected.

5. EPA Regulations & PFAS Treatment

- Skepticism over EPA's PFAS standards – some attendees feel the regulations are excessive.
- Concern about the \$30M estimated cost of PFAS compliance for a small system.
- Request for clarity on other potential treatment solutions.

VI. Recommended Actions from Attendees

Most Important Priorities for the Village:

- Health & Safety of the Water Supply – 9
- Cost-Effectiveness & Financial Impact – 5
- Infrastructure & System Upgrades – 4

Recommended Actions:

1. Upgrade & Maintain IHHW System – 4 respondents

2. Hybrid Model (IHHW Primary, GCWW Backup) – 2 respondents
3. Full Transition to GCWW – 1 respondent
4. Explore Alternative Financial Incentives – 1 respondent

Action Item: The majority of respondents favor maintaining IHHW control with necessary upgrades. Future discussions should emphasize cost-effective solutions that prioritize water safety and independence.

VII. Feedback on Town Hall Experience

Overall Satisfaction with the Town Hall

- Very Satisfied – 5 respondents
- Satisfied – 4 respondents
- Neutral – 2 respondents

Most Helpful Aspects of the Town Hall

- PowerPoint Presentation & Data Visuals – Helped attendees grasp the complexity of the issue.
- Q&A Session – Allowed concerns to be voiced, though some felt it became tense.
- Water Tower & PFAS Discussion – Many appreciated the detailed breakdown.

Suggestions for Future Town Halls

1. Organize Questions in Advance – Have attendees submit questions ahead of time to streamline discussion.
2. Clearly Define Meeting Objectives – Separate discussions on water tower vs. PFAS compliance to avoid confusion.
3. Improve Visual Aids – Include side-by-side water quality comparisons and financial impact breakdowns.
4. Explain Why Certain Options Were Eliminated – Residents need more transparency on rejected water tower sites.
5. Clarify Meeting Length – Let attendees know how long the session will last.

Action Item: Implement pre-submitted questions, structured discussions, and clearer financial breakdowns in future town halls.

VIII. Lingering Questions from Attendees

1. How does Cincinnati Water compare to Indian Hill Water in terms of safety and quality?
2. What is the financial impact of the Madeira departure on rates?
3. Are there legal or scientific challenges to the EPA's PFAS regulations?
4. Could the Village reduce costs by delaying PFAS treatment compliance?
5. Are there any alternative solutions to constructing a new water tower?
6. Why can't the existing water tower be renovated instead of replaced?
7. How can the Village secure additional funding to offset costs for residents?
8. Why did Madeira choose to switch to GCWW, and what were the deciding factors?
9. Can the Village impose higher fees for irrigation water usage to lower household rates?

Action Item: Develop a FAQ document addressing these lingering questions and distribute it before the next town hall.

IX. Conclusion & Next Steps

Key Takeaways from the Exit Survey:

- The town hall improved public understanding, but key concerns remain around water quality, costs, and system control.
- Financial impact, infrastructure needs, and regulatory compliance are the biggest areas where more information is needed.
- Most attendees support maintaining IHWW's independence but want clearer comparisons to GCWW.
- Future town halls should focus on structured discussions and clearer financial explanations.

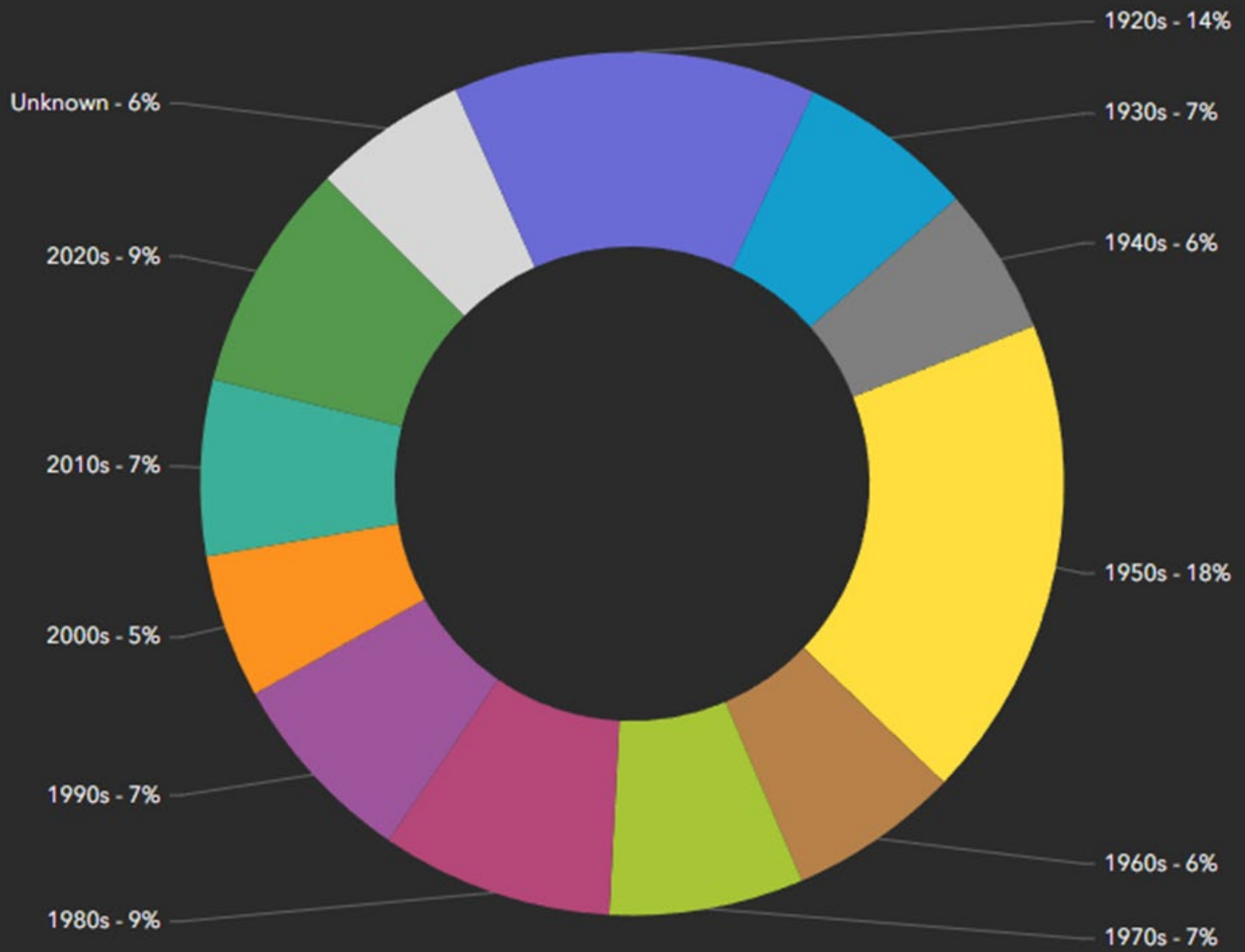
Next Steps for the Village:

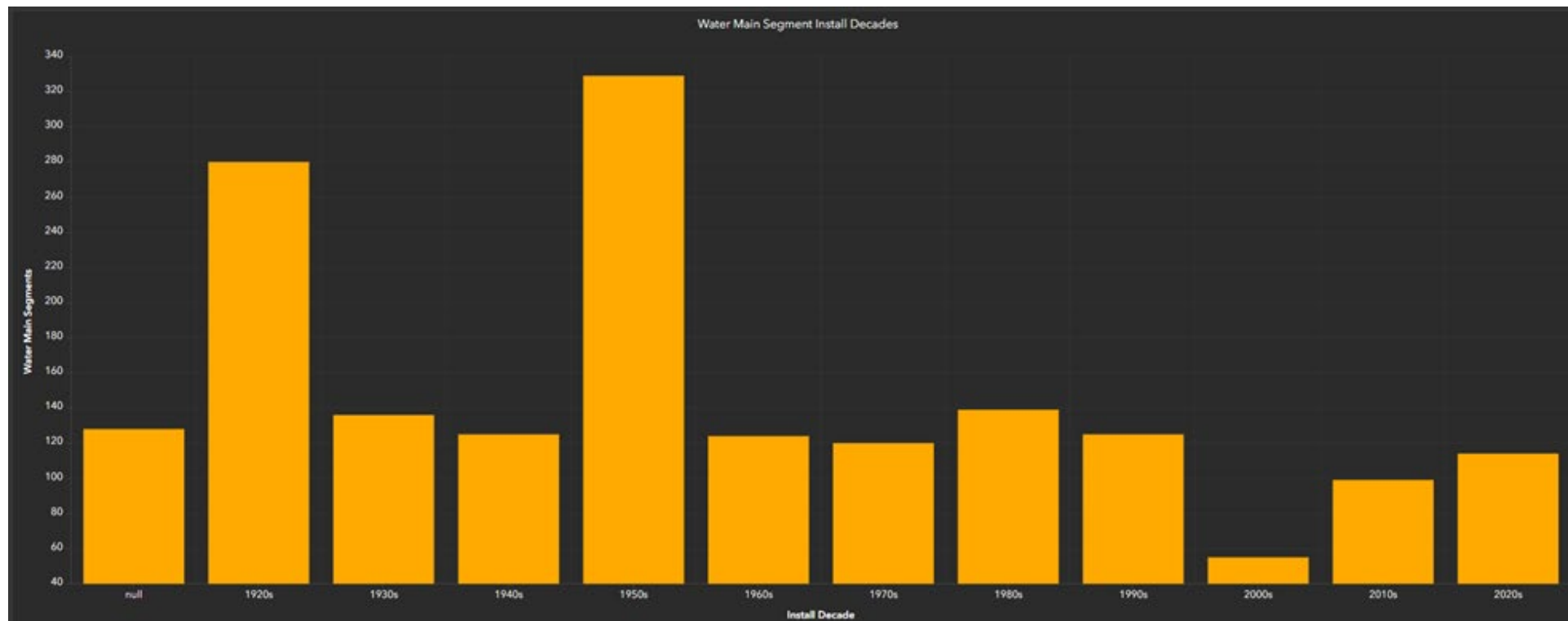
1. Develop & distribute a FAQ document to address unresolved questions.
2. Refine financial models & water quality comparisons to clarify IHWW vs. GCWW options.
3. Enhance public outreach efforts via email updates, mailed newsletters, and additional meetings.
4. Provide a detailed explanation of water tower site selection and alternative considerations.
5. Plan the next town hall with an improved structure based on resident feedback.

Top Ten Billed Water Users (2024)

Rank	Account	Address	Jurisdiction	Usage (CCF)
1	Camargo Club	8605 Shawnee Run Rd	Indian Hill	36,616
2	Single Family Residential	7700 Buckingham Rd	Indian Hill	10,729
3	Ernst Concrete	8155 Glendale-Milford Rd	Symmes	10,120
4	Indian Hill Swim Club	7585 Shawnee Run Rd	Madeira	5,587
5	Cincinnati Country Day School	6905 Given Rd	Indian Hill	4,382
6	Indian Hill High School	6865 Drake Rd	Indian Hill	4,267
7	Traditions at Camargo	7650 Camargo Rd	Madeira	4,074
8	Madeira Swim Club	6580 Miami Av	Madeira	3,260
9	Single Family Residential	8555 Shawnee Run Rd	Indian Hill	3,162
10	Indian Hill Middle School	6845 Drake Rd	Indian Hill	2,624

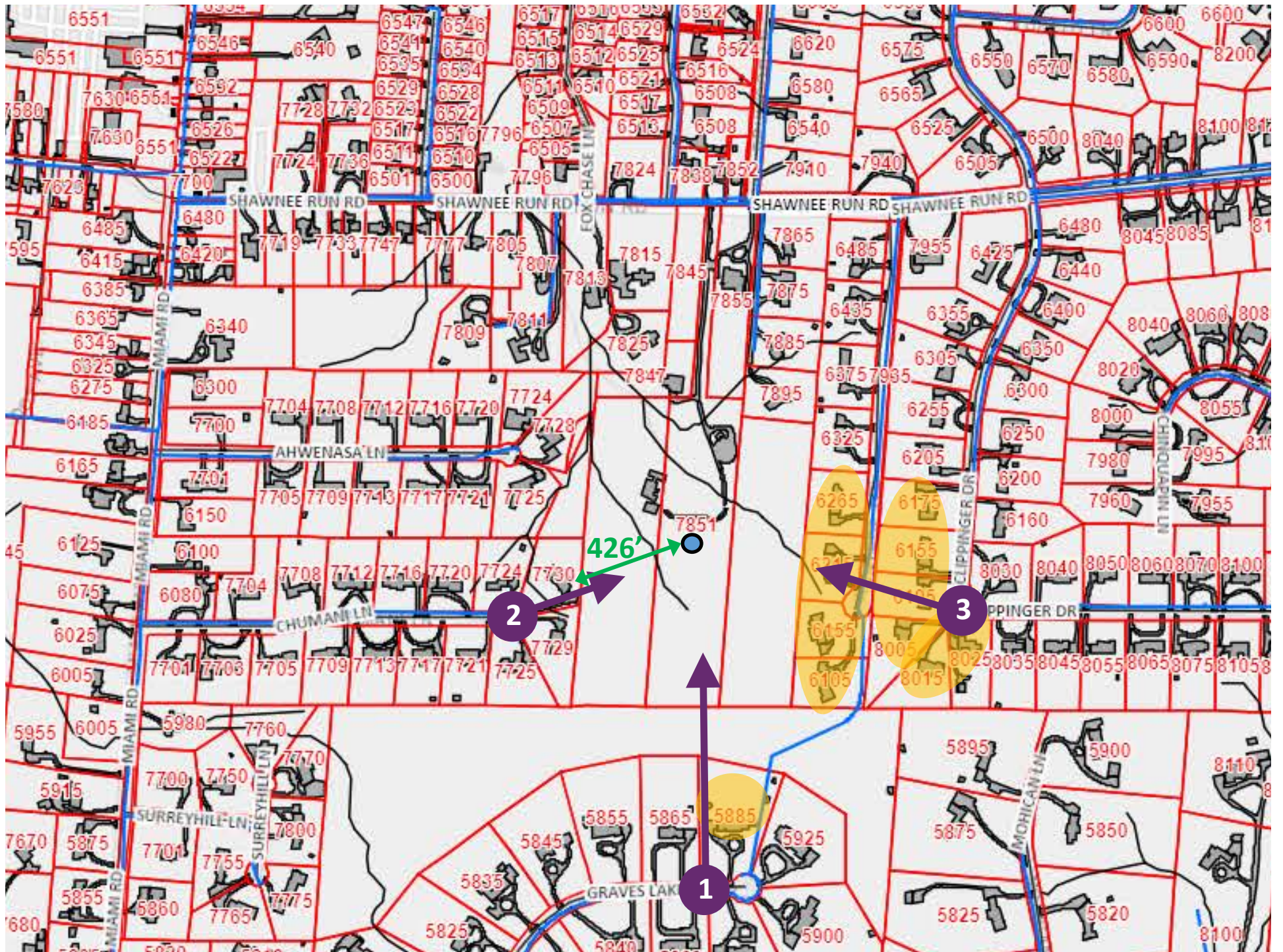
Water Main Installs by Decade





Schedule for Water Tower Installation
Last Updated: 1/28/2025

Task	Originally Anticipated Schedule		Projected Schedule		Actual Completed Schedule	
	Start Date	End Date	Start Date	End Date	Start Date	End Date
Completed Items						
Execute Contract with Design Engineer (Fishbeck)	10/22/2024	10/22/2024	10/22/2024	10/22/2024	10/22/2024	10/22/2024
Daily Bacteria Sampling at Water Tower (until roof is repaired)	10/12/2024	10/24/2024	10/12/2024	10/24/2024	10/12/2024	10/24/2024
Requested Existing Water Tower Proposal	10/16/2024	10/16/2024	10/16/2024	10/16/2024	10/16/2024	10/16/2024
Council Executive Session to Discuss Water Tower NOV Draft Response	10/21/2024	10/21/2024	10/21/2024	10/21/2024	10/21/2024	10/21/2024
Roof Repairs made to Existing Water Tower, Inspection	10/24/2024	10/24/2024	10/24/2024	10/24/2024	10/24/2024	10/24/2024
Compliance Action Plan Submitted to OEPA (w/in 30 days of date of letter)	10/11/2024	11/10/2024	10/14/2024	10/25/2024	10/14/2024	10/25/2024
OEPA Approval on Compliance Action Plan	Nov 2024	Nov 2024	10/25/2024	10/25/2024*	10/25/2024	10/25/2024*
Planning & Design Phase						
Have 4th Meeting w/ the Camargo Club to Discuss Tower Siting	Oct 2024	Nov 2024	11/8/2024		11/8/2024	
Meeting with Eppa in regard to proposed water tower siting alternate entrance	Nov 2024	Nov 2024	11/14/2024		11/14/2024	
Meeting with Turner Farm in regard to proposed water tower siting alternate entrance	Nov 2024	Nov 2024	11/18/2024		11/18/2024	
Camargo Club Board Meeting to decide on Water Tower Siting	12/4/2024	12/4/2024	12/4/2024		12/4/2024	
Have meeting with Boy Scouts RE: Camp Jim B for Tower Siting	Oct 2024	Nov 2024	11/15/2024		11/15/2024	
Council Executive Session to Discuss Water Tower, Wellfield, PFAS, & GCWW	11/18/2024	11/18/2024	11/18/2024		11/18/2024	
Water Model Update w/ Recommendation for Tank Siting & Capacity Analysis by B&N	Oct 2024	Jan 2025	10/2024	1/10/2025	10/2024	1/10/2025
City of Madeira Public Meetings & GCWW Decision (Extended to Review Counter-Offers)	Oct 2024	Jan 2025	11/12/2024	2/11/2025	11/12/2024	
Request Proposal, Contract with, & Kick-off Public Engagement Consultant	-	-	1/1/2025	1/29/2025	1/1/2025	1/29/2025
Announce Public Engagement Process & Share Background Info w/ Residents & Water Customers	-	-	2/1/2025	2/28/2025		
Public Engagement - Open Houses / Town Halls (Prep, Advertise, 3 Mtg Dates, Recap Reporting)	Feb 2025	Feb 2025	3/1/2025	5/15/2025		
Request Task Order from Design Engr (Fishbeck) for Water tower design, survey, & geotech.	11/19/2024	11/30/2024	May 2025	May 2025		
Authorize Task Order for Engr Design with Fishbeck	Dec 2024	Dec 2024	June 2025	June 2025		
Property Acquisition Process, if Needed, & get ROE to perform Survey & Geotech Borings	Nov 2024	Jan 2025	May 2025	July 2025		
Site Surveying	Nov 2024	Jan 2025	May 2025	July 2025		
Geotechnical Borings, Testing, & Report	Jan 2025	Mar 2025	July 2025	Sept 2025		
Engineering Design of Water Tower	Nov 2024	Aug 2025	May 2025	Feb 2026		
Planning & Zoning Commission Approval	Aug 2025	Aug 2025	Feb 2026	Feb 2026		
OEPA Review & Permit Process	Aug 2025	Oct 2025	Feb 2026	Apr 2026		
Shawnee Run Water Main Replacement Phs 1, OPWC Application	Sept 2025	Sept 2025	Mar 2026	Mar 2026		
Public Advertisement & Bid Process	Dec 2025	Dec 2025	June 2026	June 2026		
Shawnee Run Improvement Phs 1 Survey & Design (w/ Water Main Replacement, if Needed or Funding Approved)	Jan 2026	May 2026	Jan 2026	May 2026		
Shawnee Run Improvement Phs 1 Advertisement & Bidding (w/ Wtr Main Repl., if Needed or Funding Approved)	June 2026	June 2026	June 2026	June 2026		
Shawnee Run Water Main Replacement Phs 2, OPWC Application	Sept 2026	Sept 2026	Sept 2026	Sept 2026		
Shawnee Run Improvement Phs 2 Survey & Design (w/ Water Main Replacement, if Needed or Funding Approved)	Jan 2027	May 2027	Jan 2027	May 2027		
Shawnee Run Improvement Phs 2 Advertisement & Bidding (w/ Wtr Main Repl., if Needed or Funding Approved)	June 2027	June 2027	June 2027	June 2027		
Request & Authorize SCADA design & install proposal	Jan 2028	Mar 2028	July 2028	Sept 2028		
Request & Authorize Cathodic Protection System design & install proposal	Jan 2028	Mar 2028	July 2028	Sept 2028		
Continue "Regular" Drone Inspections of Ex. Roof (until new tower is operational)	Oct 2024	2028	Oct 2024	2028		
Construction Phase						
Water Tower Construction Contract Award	Feb 2026	Feb 2026	Aug 2026	Aug 2026		
Shawnee Run Improvements Phs 1 Construction Contract Award	July 2026	July 2026	July 2026	July 2026		
Shawnee Run Improvements Phs 2 Construction Contract Award	July 2027	July 2027	July 2027	July 2027		
New Water Tower Construction	Mar 2026	Apr 2028	Sept 2026	Oct 2028		
Shawnee Run Improvements Phs 1 Construction	Aug 2026	May 2027	Aug 2026	May 2027		
Shawnee Run Improvements Phs 2 Construction	Aug 2027	May 2028	Aug 2027	May 2028		
SCADA System Installed for New Water Tower	Mar 2028	May 2028	Sept 2028	Nov 2028		
Cathodic Protection Installed for New Water Tower	Mar 2028	May 2028	Sept 2028	Nov 2028		



View of Cell Tower From Shawnee Run Rd.:



View of Cell Tower From Given Rd.:



Schedule for PFAS MCL Compliance

Last Updated: 2/21/2025

Task	Originally Anticipated Schedule			Projected Schedule			Actual Completed Schedule		
	Start Date	End Date	Duration	Start Date	End Date	Duration	Start Date	End Date	Duration
PFAS MCL Regulations Issued by USEPA	4/10/2024	-	-	4/10/2024	-	-	4/10/2024	-	-
PFAS Testing / Monitoring (Frequency may Vary)	2020	-	On-going	2020	-	On-going	2020	-	On-going
"General Plan" Phase									
RFQ for Plan/Study/Engineering Phases (Doc. Prep. & Advertisement to Submittal Deadline)	June 2024	July 2024	2 months	5/21/2024	6/28/2024	2 months	5/21/2024	6/28/2024	2 months
SOQ Evaluation, Interviews, & Selection	Aug 2024	Aug 2024	1 month	6/28/2024	8/14/2024	2 months	6/28/2024	8/14/2024	2 months
Scope Refining, Negotiation, Contract Execution	Sept 2024	Sept 2024	1 month	8/15/2024	9/17/2024	1 month	8/15/2024	9/17/2024	1 month
Kick-Off Meeting with Consulting Engineer	-	-	-	10/14/2024	10/14/2024	1 day	10/14/2024	10/14/2024	1 day
Engr Study including Regionalization Consideration (Build off Previous Studies)	Oct 2024	Dec 2024	3 months	10/14/2024	Feb 2025	5 months	10/14/2024		
Request Proposal, Contract with, & Kick-off Public Engagement Consultant	-	-	1 month	1/1/2025	1/29/2025	1 month	1/1/2025	1/29/2025	
Planning Meeting with OEPA & Consulting Engineer	Oct 2024	Oct 2024	1 month						
RSSCT Work Plan Reviewed by OEPA							2/3/2025		
Apply for OEPA Loan Funding for Planning Phase Only	-	-	-	Feb 2025	Feb 2025	1 month	2/19/2025	2/21/2025	3 days
Announce Public Engagement Process & Share Background Info w/ Residents & Water Customers	-	-		2/1/2025	2/28/2025	1 month			
Public Engagement - Open Houses / Town Halls (Prep, Advertise, 3 Mtg Dates, Recap Reporting)	Feb 2025	Feb 2025		3/1/2025	5/15/2025	2.5 months			
Demonstration Study & Corrosion Control Evaluation - GAC Accelerated Column Test	Nov 2024	Feb 2025	4 months	Mar 2025	June 2025	4 months			
Corrosion Control & WQ Monitoring	Nov 2024	Oct 2025	12 months	Mar 2025	June 2025	4 months			
General Plan Compiled	-	-	-	Oct 2024	Sept 2025	12 months			
OEPA Review of General Plan & GAC Testing Results	Mar 2025	May 2025	3 months	Sept 2025	Dec 2025	4 months			
Design Phase									
Engineering Design of Construction Plans	June 2025	Mar 2026	10 months	Jan 2026	Oct 2026	10 months			
OEPA Funding Application Prepared for Design & Construction Phase	Apr 2026	June 2026	3 months	Feb 2026	Feb 2026	1 month			
Funding Application Reviewed by OEPA & Executing Agreement, if Successful	July 2026	Sept 2026	3 months	Mar 2026	May 2026	3 months			
OEPA Construction Plan Review & Permitting	Apr 2026	Sept 2026	6 months	Nov 2026	Feb 2027	4 months			
Construction Phase									
OEPA Construction Funding Application Prepared	Apr 2026	June 2026	3 months	-	-	-			
Construction Funding Application Reviewed by OEPA & Executing Agreement, if Successful	July 2026	Sept 2026	3 months	-	-	-			
Construction Project Advertisement, Bid, Award, & Contract Execution	Oct 2026	Oct 2026	1 month	Mar 2027	Mar 2027	1 month			
PFAS Treatment Construction, Brought Online & Operational	Nov 2026	Mar 2029	29 months	Apr 2027	Mar 2029	24 months			
OEPA Deadline for PFAS MCL Compliance	-	Apr 2029	-	-	Apr 2029	-	-		

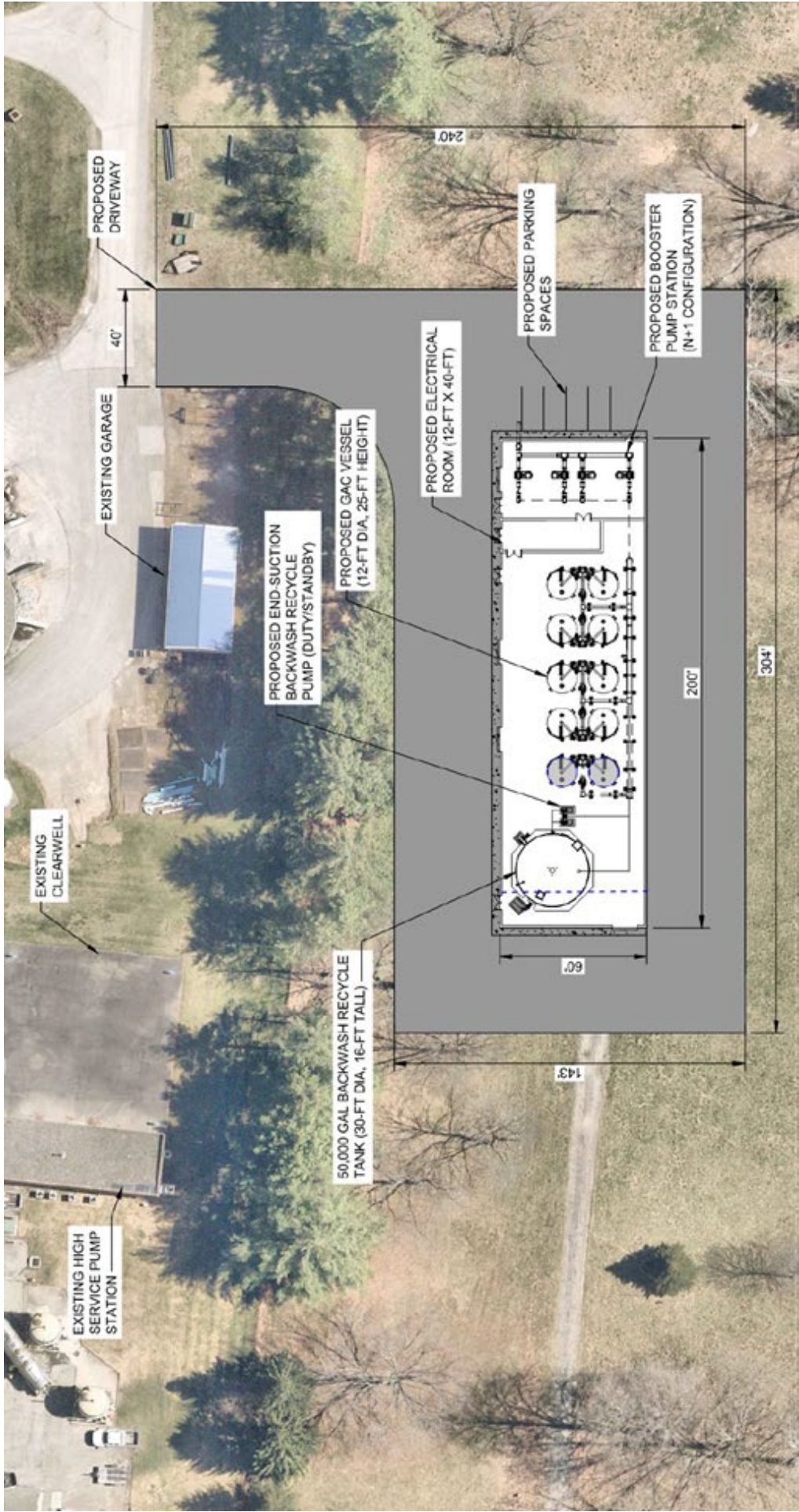
Note 1

Note 2

Note 3

Note 4

1. This step requires Madeira to make a decision required capacities can be determined. That will impact capital costs. Life-cycle cost analysis portion of General Plan will be based on data from the RSSCT.
2. It is recommended to postpone the start of design until after the General Plan is approved by OEPA. Otherwise, there is potential for redesign expense.
3. Could reapply for construction loan funding with principal forgiveness in Feb 2027 if unsuccessful in 2026.
4. Tetra Tech feels a construction period of 18-20 months is appropriate. We have 4-6 months float here.



Home water treatment systems to reduce levels of PFAS in drinking water:

There are two different ways to treat the water in your home for PFAS. One way is to install point of use (POU) systems. POU water treatment systems treat the water at a specific location within the house, typically the kitchen sink or main source of water for drinking and cooking; some also provide water to the refrigerator. The second way would be to install whole home water treatment systems at the point of entry or at the point of use can reduce the levels of per- and polyfluoroalkyl substances (PFAS) in a home's drinking water. Whole house water treatment systems (also called point of entry [POE]) treat all the water entering the household plumbing system.

Both types of water treatment have pros and cons that should be considered before selecting the best option for your home. The type of treatment system selected should consider the amount of water that will be used, the number and locations where water is used, and the type of PFAS identified in the laboratory result.

If water for drinking, cooking, and making ice is primarily obtained from the kitchen sink, the installation of a POU treatment unit below the sink or on the sink faucet is an option. If drinking water and ice are obtained from the refrigerator, it is important to consider treating the water line to the refrigerator also. If drinking water is obtained from multiple locations in a home, a (whole house treatment system) may be preferred.

See [\[PFAS – Whole House Water Treatment\]](#) fact sheet for more information.

If possible, it is important to choose a treatment system that has been tested and certified to reduce the PFAS present in the water based on data provided by the public water system provider or from a laboratory analysis.

Certified POU water treatment products to reduce PFOA and PFOS:

Certified products are either granular activated carbon (GAC) filtration or reverse osmosis (RO) treatment systems. It should be noted that some of the products certified to treat water at the point of use are countertop products or pour-through (like a pitcher filter that you fill from the tap as needed).

NSF International and the Water Quality Association (WQA) are independent third-party testing agencies that currently test and certify products to reduce two specific PFAS: PFOA and PFOS. In April 2024, U.S. EPA released drinking water maximum contaminant levels (MCLs) for PFOA and PFOS. However, there are currently no POU options certified by NSF or WQA certified to reduce PFAS and PFOA to meet the lower MCLs, nor have the NSF or WQA tested the removal capabilities of products for additional PFAS substances now regulated by U.S. EPA.

Look for products identified as certified to:

- [NSF/ANSI Standard 53:](#) Drinking Water Treatment Units – Health Effects with the claim of “PFOA Reduction” and “PFOS Reduction.”
- [NSF/ANSI Standard 58:](#) RO Drinking Water Treatment Systems with the claim of “PFOA Reduction” and “PFOS Reduction.”

The NSF International consumer information team can also be contacted at info@nsf.org or **1-800-673-8010** for assistance with finding a certified product.

Products tested and certified by the Water Quality Association (WQA) can be found [here](#).

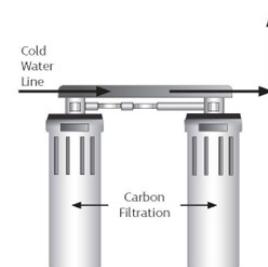
Product certifications are tested to meet either NSF/ANSI Standard 53: Drinking Water Treatment Units – Health Effects for the reduction of PFOA and PFOS with GAC filtration systems, or to NSF/ANSI Standard 58 RO Drinking Water Treatment Systems for the reduction of PFOA and PFOS with RO systems. There is currently no standard for certification of other types of treatment systems.

POU water treatment products to reduce other PFAS:

There are currently no certified standards for removing PFAS other than PFOA and PFOS; however, consideration of the type of PFAS can inform the selection of the best water treatment system. PFOA and PFOS are longer-chain PFAS than other chemicals in the PFAS family. Long-chain chemicals are larger, which makes it easier for a filter or membrane to trap them. Short-chain PFAS are harder to reduce with GAC treatment alone. Although there is no product certification standard at this time, research has shown that RO treatment systems can effectively reduce a wide range of PFAS, including short-chain PFAS.

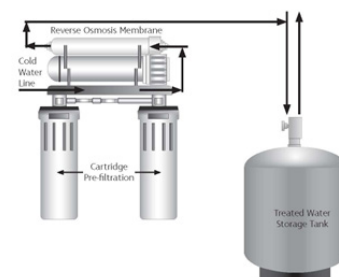
Considerations for POU granular activated carbon (GAC) treatment:

- Physical filter cartridge “traps” contaminant(s). At the end of its rated lifecycle, it is removed and disposed.
- Filter must be replaced on a regular schedule, as identified by the manufacturer.
- Generally, GAC filters provide more water flow than a RO system.
- This option may not effectively treat short-chain PFAS if present in addition to the long-chain PFOA and/or PFOS.



Considerations for POU reverse osmosis (RO) treatment:

- To maximize the life and effectiveness of the membrane, RO typically requires the installation of pre-filtration to reduce sediment and small particles.
- Large volumes of water are wasted in the treatment process. Typically, for every 10 gallons sent into the treatment unit, only two to three gallons of treated water are produced. The remaining seven to eight gallons are sent down the drain as waste.
- Membranes and pre-filtration cartridges must be replaced on a regular schedule, as identified by the manufacturer.
- Research has shown that RO can effectively reduce short-chain PFAS in addition to the long-chain PFOA and/or PFOS.



Costs:

U.S. EPA has estimated costs for different types of POU water treatment systems. ODH developed a factsheet listing NSF/ANSI and WQA certified water treatment equipment and costs.

See the [\[PFAS Point of Use Water Treatment Options\]](#) factsheet for more information.

	Approximate Initial Equipment Purchase Cost	Approximate Replacement Treatment Media Cost
Certified Point of Use Granular Activated Carbon (GAC) Filter	\$100 to \$1,200	\$200 to \$300 Each Year
Certified Point of Use RO	\$400 to \$700	\$200 Each Year

Maintenance:

Any water treatment system requires regular maintenance to ensure effective performance. Follow the instructions that come with your system. These instructions will identify how often the filters and membranes need to be replaced as well as the specific filters or membranes that must be used.

If a system is not properly maintained, water will still flow through it, but the system will not work, and the water will not be treated. The taste, smell, or color of the water are not indicators of when a system needs maintenance, because PFAS do not change these water qualities. Always refer to the manufacturer's recommendations for how and when to maintain your system.

For more information:

For more information on PFAS, including the health effects of PFAS, PFAS in drinking water, water testing, and treatment, and other PFAS activities in Ohio, visit the [Ohio PFAS webpage](#).

For more information on treatment systems, visit [U.S. EPA Reducing PFAS in Drinking Water with Treatment Technologies](#).

For more information on water treatment to reduce PFAS concentrations, contact the ODH Residential Water and Sewage Program at Privatewater@odh.ohio.gov or at (614) 644-7558.



INDIAN HILL COMMUNITY ENGAGEMENT

WATER WORKS

Spring 2025

FREQUENTLY ASKED QUESTIONS (FAQ)

1. WATER TOWER & PFAS REMOVAL FACILITY

Q: Why does the Village need to build a new water tower? Why can't it be repaired?

A: When the water tower was built in 1936, the single source of elevated water storage was not planned to meet the water system needs of 2025. The elevated storage for Indian Hill Water Works (IHWW) is built to hold 500,000 gallons while IHWW produces a daily average ranging from 1.5 million gallons (in winter) to 5 million gallons per day (in summer). Not only is the existing tower under capacity, but the capacity is operationally limited because there is only a 3' elevation range it must be kept within to properly pressurize the IHWW water system.

With an effective operating capacity in the current structure of only 70,000 gallons out of 500,000 gallons (14%), it requires a continued source of pumped water to remain in operation. The effective storage only lasts about 15 minutes during the summer and requires replenishment by some means of pumping from the underground storage tanks. Pumped water depends on electricity, which is not as reliable as gravity is to pressurize the water system.

To assist in prolonging the tower's viability through the years, the Village performed significant infrastructure improvements:

- 1963 – Two (2) 1-million-gallon underground tanks installed
- 1965 – Perimeter Seal/Concrete Repair
- 1976 – Exterior and Interior rehabilitation
- 1981 – Tower relining
- 1988 – One (1) 1-million-gallon underground tank installed
- 1992 – Tower restoration after fire damage
- 2005 – Epoxy liner installed
- 2012 – Fill pipe, catwalk, and windows replaced

The Village has three Master Plans which all recommend a water tower replacement with a 1 million-to-1.5-million-gallon tank.

Currently, the tower needs a new liner, a new roof, and extensive exterior repair. The Village determined it is not fiscally responsible to spend millions of dollars on a structure that is close to the end of its useful life and doesn't meet the required needs of the water system.

Q: Is it necessary to build both the water tower and a PFAS removal facility?

A: Building both a new water tower and a PFAS removal facility is heavily based on the three outlined business options within the presentation.

Option #1: Continued IH water treatment and IH water distribution -- would require both a water tower and PFAS removal facility.

Option #2: Purchase water from Greater Cincinnati Water Works (GCWW) and retain IH water distribution -- would require only a water tower. However, costly water plant demolition and well abandonments would be required.

Option #3: Purchase water and water distribution from Greater Cincinnati Water Works (GCWW) -- will still require a tower. However, costly water plant demolition and well abandonments would be required. (Option #3 was previously dismissed by City Council).

Q: If we build the water tower, do we still need to implement PFAS removal?

A: Under the current federal regulation, PFAS removal will have to be implemented by the April 26, 2029 deadline. This could happen by finding another source already meeting these guidelines or installing a PFAS removal facility at the current water treatment plant.

Building a water tower has no bearing on meeting the PFAS regulations.

Q: What are the long-term benefits of keeping our independent water system?

A: Indian Hill Water Works Benefits include:

1. The Little Miami aquifer is the source of IHWW's water. Underground aquifers are often preferred over surface water sources because they tend to be less susceptible to contamination and take longer to become contaminated due to natural filtration as groundwater moves through layers of rock and sediment. Water drawn from wells generally requires less treatment processes to make it safe for drinking water.
2. Increased resiliency by maintaining a reliable source of water and contracting with GCWW for an emergency back-up supply, such as was used for supplementation during the drought of 2024
3. Controlling overall water rates within the Village now and into the future
4. Money from payment of your water bill goes directly right back into the community being served
5. Maintaining the current high level of 24/7/365 service provided to customers by IHWW
6. Both IHWW and GCWW must meet OEPA drinking water regulations. Water quality is additionally controlled by Indian Hill through a much shorter distribution system, reducing the age of treated water reaching customers.
7. Per residential sentiment, other Indian Hill departments prefer in-house versus outsourcing— e.g., waste collections/recycling, dispatch, park maintenance, etc.

GCWW Benefits include:

1. No need for Village to fund a PFAS removal facility as the purchased water would be treated already

2. Indian Hill customer base becomes a part of a much bigger system to spread future costs out among more users
3. The Ohio River is an abundant source of water

GCWW Costs include:

1. GCWW's water source is the Ohio River. Surface water is generally more susceptible to contamination from exposure in the environment, runoff, air fallout, and other sources, leading to higher concentrations of contaminants. It generally requires more treatment to make it safe for drinking, which was why GCWW installed a granular activated carbon (GAC) facility in the 1990's.
2. Reliability of water is reduced as the water supply from GCWW is not guaranteed to wholesale and retail customers. If an emergency were to occur, City of Cincinnati residents and businesses will receive water as the first priority.
3. If GCWW provides water in lieu of IHWW providing a PFAS removal facility, both the IHWW wellfield and water treatment plant which has been invested in and upgraded many times over the years will need to be abandoned and demolished.

GCWW is anticipated to have future rate increases for not only general inflation and infrastructure replacements, but also for \$125 Million in PFAS removal upgrades at the Bolton treatment plant and \$200 Million in lead water service line replacement costs.

2. FINANCIAL CONSIDERATIONS

Q: How does Madeira's departure affect Indian Hill's water revenue and rates?

A: Madeira uses approximately 20% of the water produced by the Village and accounts for roughly 24% of the revenue due to minimum billing. The effects of this change are currently being explored in Council's annual water rate analysis. If this change occurs, a two-year transition is required. Therefore, budgetary effects would not be seen until 2027.

As an offset, the Village households have significantly expanded. The northern area of the Village will have over 100 new homes over the next few years— 53 of which are completed or platted. In addition, various other land parcels have been developed throughout the Village.

Q: What has the Village done to financially prepare for these projects?

A: Each year, Council performs a water rate analysis based on past year budget performance and multi-year forecasts within the Water Works Maintenance and Operation Fund and Capital Reserve Funds. Money is transferred on an annual basis from the Maintenance and Operation Fund to the Capital Reserve Fund based on cost for various projects - water main replacements, necessary plant upgrades, equipment replacement, etc.

A potential water tower bond payment has already been accounted for in previous water rate discussions. Once the USEPA announced the PFAS mandate in April 2024, the Village immediately began exploring multiple different sources of funding, including, but not limited to: principal forgiveness from various state and federal organizations, low interest state loans, class action settlement monies from 3M, Dupont, TYCO, BASF, longer termed bonds and water rate options.

Q: Could the Village issue bonds to help fund these improvements?

A: A 30-year bond is being explored in Council's annual water rate analysis for the water tower and PFAS treatment

Q: How do water costs compare between Indian Hill and GCWW?

A: Includes the following parameters:

- Current pricing as of Spring 2025
- Industry standards of 8.33 CCF (100 cubic feet) of water usage per month
- Incorporated Hamilton and Clermont County GCWW rates (rates outside of City of Cincinnati are higher)
- Comparison demonstrates if GCWW controlled all Indian Hill water operations and distribution
- It is unknown at this time if there will be an infrastructure surcharge in addition to the below rates

IHWW Rate

\$5.95/CCF

\$0.00 flat fee

\$49.56 total avg monthly bill

GCWW Rate

\$4.58/CCF

\$9.98 flat fee

\$48.13 total avg month bill

Q: Could we charge higher rates to non-Indian Hill residents to help pay for improvements?

A: Most other jurisdictions that provide water outside of their respective jurisdiction do so at a higher rate. Cincinnati, Wyoming, and Milford are examples. Indian Hill is somewhat unique, as the rate paid for 1 CCF (748 gallons) is paid at the same rate no matter which jurisdiction is served -- Madeira, Terrace Park, Indian Hill, Symmes Township, or Montgomery.

Council may evaluate a separate rate for outside customers during its annual water rate analysis.

3. ALTERNATIVE WATER SOLUTIONS

Q: Have other water treatments been explored to remove PFAS such as reverse osmosis?

A: The Ohio Environmental Protection Agency recognizes three options for removal of PFAS from drinking water: granular activated carbon (GAC), ion exchange (IX), and reverse osmosis (RO). In 2023-2024, the Village contracted with an engineering firm to evaluate all three options for the Village and recommended GAC as the best solution for our system. The primary drawback of RO systems is the large volume of wastewater created in the process. This is water pumped from our wells into the RO system but discharged as unusable. Due to aquifer conditions and having no available sanitary sewer system near the water treatment plant, this was not a viable option.

Indian Hill has worked with a group currently funded by the USEPA Research and Development on a process known as Foam Fractionation. This technology is still being evaluated as a potential method for PFAS removal; however, it is not currently recognized

as an approved method by the Ohio EPA. The USEPA at this time has a broader acceptance of technologies in regard to PFAS removal.

Q: Can residents install reverse osmosis systems in their own homes?

A: Residents / Customers can certainly install Reverse Osmosis (RO) in their homes. Most installations are located at the kitchen sink and used for drinking and cooking. Please visit the link below for home filtration system information published by the Ohio Department of Health

www.indianhill.gov/town-hall-meetings

Q: Can individual homeowners install their own filtration systems?

A: Yes, individual property owners may have in-home filtration systems installed. Some home filtration systems are capable of PFAS removal. Any individual system used for PFAS removal must abide by the manufacturers' recommended service and replacement guidelines.

Please visit the link below for home filtration system information published by the Ohio Department of Health.

www.indianhill.gov/town-hall-meetings

Q: Are there incentives for rainwater collection or personal storage?

A: Privately-owned rainwater collection is an option residents have for lawn irrigation. This will reduce the amount of water purchased, providing savings on your water bill in the grass-growing season. Rainwater collection methods can vary from simple rain barrels with garden hose spigots to underground cisterns and pumps tied to sprinkler systems.

The Village is a member of a Regional Storm Water Collaborative, which hosts an annual rain barrel art auction at the Cincinnati Zoo each April. For more information about the auction for rain barrels painted by local artists, please visit the link below.

www.savelocalwaters.org/auction.html

Council may evaluate incentives during its annual water rate analysis.

4. EPA PFAS REGULATIONS & ADVOCACY

Q: Are other communities facing the same EPA requirements?

A: The EPA estimates that between 6% and 10% of the 66,000 public drinking water systems in the United States may need to take action to reduce PFAS, and at least 45% of tap water is estimated to contain one or more PFAS. The exact figures are unknown at this time as the April 2024 PFAS regulations provide a time period of three years for public water systems to complete initial monitoring for PFAS. Please utilize this QR code to access the USEPA site.



The Village and several other public water systems have already tested for and found PFAS levels in their water through prior Unregulated Contaminant Monitoring Rule testing. OEPA has a website which lists and maps PFAS sampling results. Other public water systems in the area with PFAS levels in excess of the new regulations include Kings Island, Loveland, Milford, Morrow, Western Water, Wilmington, and the Bolton water treatment plant of GCWW.

Please utilize this QR code to access the OEPA site.



Q: Is there a possibility that the federal government will amend or delay implementation of these regulations?

A: It is possible that these regulations could be amended or delayed. However, if the Village was to anticipate a change, and that change doesn't occur, the Village would not be able to meet the compliance deadlines currently in place.

Q: Can the Village push for regulatory changes at the federal level?

A: The Village itself is not taking a stand for or against the regulation of PFAS, as the public has a wide range of views on the matter as it relates to public health. Rather, the Village has a goal of continuing to be compliant with drinking water regulations

The Village has applied for funding and anticipates future funding application requests to the Ohio Environmental Protection Agency for assistance with PFAS removal.

The American Water Works Association (AWWA), of which the Village is a member, has filed a lawsuit against the USEPA for its PFAS regulations.

Lobbying efforts in Washington D.C. are underway by several organizations that must abide by the same standards as the Village.

Q: What are the potential penalties for non-compliance with new EPA regulations?

A: Violations from the EPA, significant penalties including fines, potential jail sentences for negligence and possible shut down of the water plant as license would not be renewed.

5. WATER TOWER LOCATION & IMPACT

Q: Why was the recommended site chosen for the new water tower?

A: Please refer to the Water Tower Site Consideration packet with the link below for detailed information about seven sites considered for the proposed water tower

www.indianhill.gov/town-hall-meetings

Q: How will the water tower impact water pressure?

A: A new water tower would slightly increase water pressure on the system. The water at a customer's tap is directly impacted by the difference between the elevation of the tap and the elevation of the water level in the water tower. Each foot of height provides 0.43 pounds per square foot (psi) of water pressure. The high-water elevation of the proposed tower is 7 feet higher than the existing tower, which will result in about an overall additional 3.03 psi of water pressure in the system.

By raising the high-water elevation, it will allow for better turnover within the structure and overall better water quality for our customers. Typical water supply pressures range between 50 and 100 psi. Pressure reducers and booster pumps, both on a municipal / commercial scale and in-home residential scale, are often utilized to aid in locations where elevation causes the water pressure to be consistently above or below this range.

A disconnection of Madeira from the system could also increase system pressure between 2-6 psi.

Q: What will the tower look like and can residents see renderings?

A: The Village understands that aesthetics of the water tower are important. The Village has engaged a consultant to prepare renderings of a basic water tower at the proposed elevation and size. This will be done from three different views toward the proposed site solely for purposes of estimating the visibility of the tower. The aesthetics of the proposed water tower will be guided with input from the community.

6. GREATER CINCINNATI WATER WORKS (GCWW) PARTNERSHIP

Q: Would Indian Hill have priority if we joined GCWW?

A: Similar to the court decision in the 1940's which led to IHWW being founded to avoid annexation into Cincinnati to receive water service, GCWW still does not have responsibility to serve water outside their jurisdiction. Indian Hill and the other wholesale and retail customers are secondary in priority to GCWW in comparison to all customers within their jurisdiction.

If GCWW had a water shortage, they would be able to deny water to Indian Hill. During the drought of 2024 when IHWW contacted GCWW for supplemental supply through our emergency supply contract, GCWW staff had to investigate their supply and water tower levels before reporting back to grant permission to provide supplemental water. Reliability of water service is a concern with joining GCWW as IHWW would no longer have any emergency interconnection and service contract with a secondary source.

Q: What drove Madeira to transition to GCWW?

A: Madeira has had two different water suppliers for 75 years. This resulted in two different water rates for members of their community.

Moreover, Madeira owns its water mains on the side of the city that IHWW supplies water. Consequently, they are responsible for the replacement of these mains. IHWW is only responsible for maintenance and supply of water. Madeira deferred water main replacement for the city on the side Indian Hill serves for approximately 70 years. For all those years, IHWW has handled all the water main break, project inspections, home leak checks, meter readings and main repairs at no cost to Madeira.

Over the last 5 years, Madeira began replacing a large volume of its water infrastructure as the deferred replacement left its infrastructure in a deteriorating state. To replace large volumes of pipe, Madeira Council approved a 25% surcharge to be placed on Indian Hill's water rates in 2012. Indian Hill was simply the collecting agent for the 25% fee. The entire 25% collected was given to Madeira to fund its infrastructure.

However, this surcharge wasn't sufficient to account for the necessary volume of infrastructure replacement. Therefore, the Madeira Council voted to increase the surcharge from 25% to 41% in 2023. This 41% surcharge has become a significant point of contention to these customers. Consequently, Madeira solicited proposals for GCWW to take over their current water system supplied by Indian Hill. Madeira has received an aggressive proposal from GCWW to supply water to the entire city and take over ownership of the distribution system.

Q: Would joining GCWW provide immediate access to cleaner water?

A: A transition to a new sole water source is not like flipping a light switch. For example, GCWW expects the transition to serve 60% of Madeira will take two years.

Available water storage capacity (a larger water tower) would become increasingly important to the Village if the intent was to buy water from GCWW since reliability of water supply would be diminished with the loss of an emergency back-up supply contract with a second water source. GCWW will prioritize its customers within the City of Cincinnati over any wholesale and retail customers outside their City limits if they experience any shortages. GCWW would require construction of multiple water main interconnections to be built to their current standards with a master meter at each interconnection.

Some water system modeling and engineering considerations will be necessary as the current IHWW water system has been designed with the water coming from the current treatment plant on the east side of the system for the last 75 years. The water mains leaving the water treatment plant are large 12", 16", and 20" diameter pipes, as it is required to get a large volume of water out to the system and to the storage tanks currently on Miami Rd.

To change direction IHWW water mains receive water may require new water mains to provide sufficient flows. Maintaining large diameter mains on the east side of the water system may create water quality and disinfection byproduct problems in the area and require replacement with smaller distribution mains.

When you chlorinate water, it has a certain life expectancy and must be turned over, or used at a certain rate, to stay within safe tolerances for drinking. The limited number of

customers available on the east side to turn this large volume over could present a problem.

There are other potential issues with pH differences as well.

7. PUBLIC HEALTH CONCERNS

Q: What are the potential health effects of PFAS?

A: The health effects of PFAS have been heavily researched and discussed by multiple credentialed health and environmental professionals. We recommend researching the topic with the national or state Environmental Protection Agency, County or State Health Departments.

The purpose of the community engagement is for the Village to educate the residents on its efforts to comply with a USEPA mandate.

Q: Can the Village remove fluoride from the water supply?

A: Fluoridation of water was adopted into the City's Charter by Village residents. A petition process is necessary to get the item on the ballot for voters to agree to a change of the Charter.

8. COMMUNITY ENGAGEMENT & NEXT STEPS

Q: How can residents stay informed and be involved in these decisions?

A: The Village welcomes the community's thoughts throughout this process. Please visit the website below to submit your questions and comments as well as to view the Town Hall presentation materials, and other information. New information will be added to this page throughout the community engagement process. Residents are also encouraged to attend the Town Hall meetings (scheduled for March 13th, April 15th, and May 14th).

www.indianhill.gov/town-hall-meetings

Q: Will there be additional public meetings or tours of the recommended water tower sites?

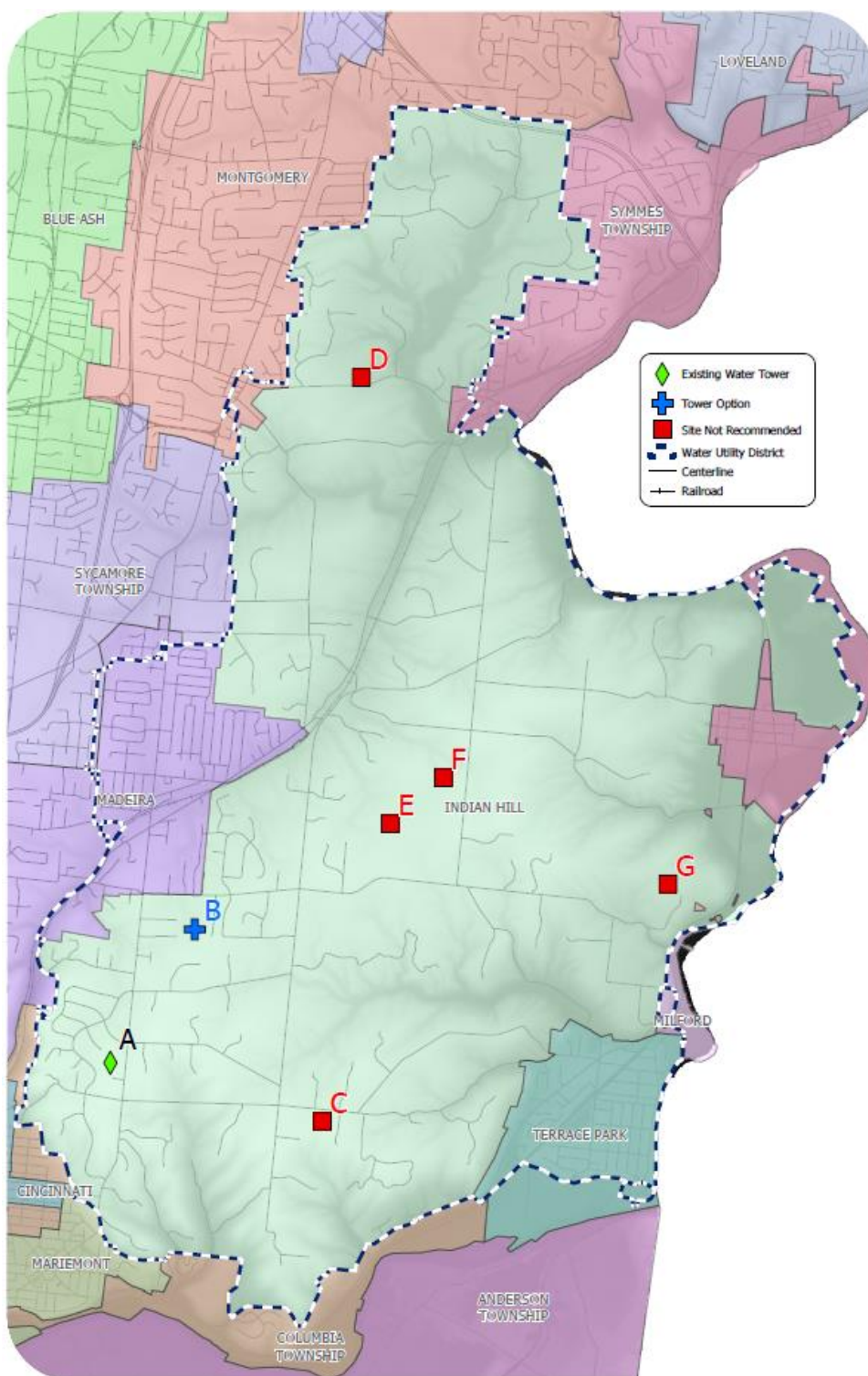
A: Three Town Hall meetings are scheduled for the general public - March 13, April 15, and May 14. Please do not hesitate to contact the Village if you would like to schedule an additional small group or 1-on-1 meetings. Arrangements can be made to tour the recommended water tower site.

The Village would like to have stakeholder meetings with the groups impacted by the recommended water tower location. There will be more information to follow on this, but do not hesitate to contact the Village for additional questions or to set up a small group meeting.

This document serves as a starting point for continued discussion and engagement. We welcome community input as we work together to make the best decisions for Indian Hill's water future.

Overview of Sites Considered for the Proposed Water Tower

March 18, 2025



- A. Existing Tower Site
- B. Camp Jim B
- C. Radio Range Park
- D. Remington Rd.
- E. Camargo Club
- F. Grob Property
- G. Clippinger Field

Note:

1. Water tower construction cost estimates were not obtained for each site. Cost increases with the height of the tower structure. Cost is impacted by foundation type necessary (shallow or deep); no soil borings and testing have been performed on any site. Cost is also dependent on the amount of aesthetic upgrades, which will depend on the surroundings, and community input.
2. On-going maintenance costs were not obtained for each site. Cost increases primarily based on aesthetic upgrades of tower, as well as tower height (time needed to clean / repaint the surface area, and the reach capacity of equipment).
3. Duration of construction is dependent on the site prep work, foundation type, tower height, tower type, aesthetic upgrades, and seasonal timing of construction / weather delays.

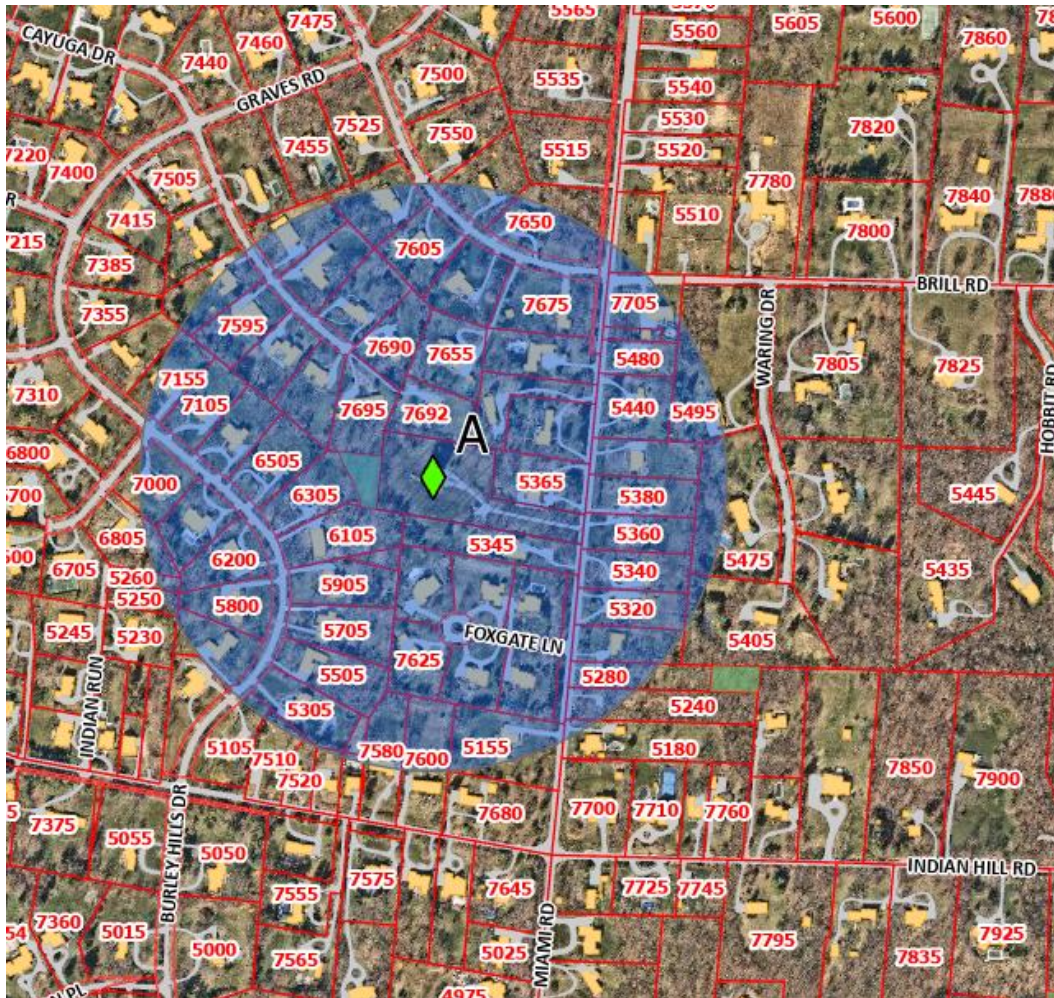
Summary Chart of Water Tower Site Considerations

Potential Water Tower Site	Village-Owned Land	Allowed by Deed	Physical Constraints	Central Location	Existing Water Main Sufficient	Approx. Tower Height to HGL*
A. Existing Tower Site	✓	✓	X	X	X	83'
B. Camp Jim B	✓	✓	✓	✓	X	117'
C. Radio Range Park	✓	X	✓	X	X	95'
D. Remington Rd.	X	✓	✓	X	X	247' - 267'
E. Camargo Club	X	✓	✓	✓	✓	123'
F. Grob Property	X	✓	✓	✓	X	115' - 127'
G. Clippinger Field	✓	X	✓	X	X	187' - 197'

*HGL is the Hydraulic Grade Line, or maximum water elevation in the proposed water tower, which is proposed to be designed at 967' above Mean Sea Level (MSL). The tower height was approximated by subtracting the ground elevation in feet above Mean Sea Level per a County topography map for each site from the design HGL of 967'. The higher the number is in the table, the more expensive and potentially visible the proposed tower will be.

Site A
Existing Water Tower Site on Miami Rd.

Overall Assessment: Not Recommended



Number of Residences Abutting Tower Property: 6
Number of Residences within 1,000' Radius of Tower: 56

Property Status:

- + Village-owned
- + Utility structures not restricted by deed
- Will not meet zoning code for yard setback requirements
- Not a central location to the water system, impacts fire flows

Approximate Ground Elevation: 884' MSL **Desired HGL Elevation:** 967' MSL
Approximate Proposed Tower Height to HGL: 83'

Site Work Considerations & Water Transmission Main Needs:

- + Only intermittent interruptions to traffic on Miami Rd. are expected for construction vehicle ingress/egress and water main tie-in.

- A 16” transmission main already exists, but will need to be replaced due to age and condition. (The water main along Miami Rd. was built in 1922, and the water main within the tower site is from 1936.) A small extension to the new tower site will also be needed within the parcel.
- Three underground water storage tanks may not be driven over by vehicles or equipment as they would be at risk of damage and being put temporarily out of service.
- Considering booster pump stations, existing tower (needed to remain in service during construction), and underground storage, there is not enough physical space for construction personnel vehicles, equipment (crane operation, concrete trucks, etc.), and materials (metal tank panels, fill pipe, etc.).
- Excavation in close proximity to underground vaults could compromise the integrity of the walls of the underground tanks. This is particularly true if a deep foundation is needed to support the weight of a tower and the weight of 1 MG of water. Similar to in-ground swimming pools, underground tanks are designed to withstand the water pressure considering the help of counter-acting surrounding soil pressure. Removing soil near the underground tanks puts the tanks at risk for damage and being put temporarily out of service.
- Safety risk of construction on this site is highest as it is the sole location of the Village’s water storage, and puts the system at the most risk for water outage and fire-fighting impacts.
- Rehabilitation of the water tower in lieu of replacement is not recommended as current repair needs are expensive, the structure is already at the end of its useful life at 89 years old, it is under-capacity, and is so short that it may only effectively use 70,000 gallons of storage. It has already had numerous rehabilitation attempts. The tower will need to continue to operate until a new tower is built (estimated construction duration is 18-24 months) in order to have water pressure provided by gravity instead of relying on electricity and continued pump operation.

Site B
Camp Jim B Property on Shawnee Run Rd.

Overall Assessment: **Recommended**



Number of Residences Abutting Tower Property: 6
Number of Residences within 1,000' Radius of Tower: 43

Property Status:

- + Village-owned
- + Utility structures not restricted by deed or lease to Scouts
- + Scouts may continue to utilize the property with a water tower located on-site
- + Will meet zoning code for yard setback requirements
- + A more central location to the water system than the existing water tower

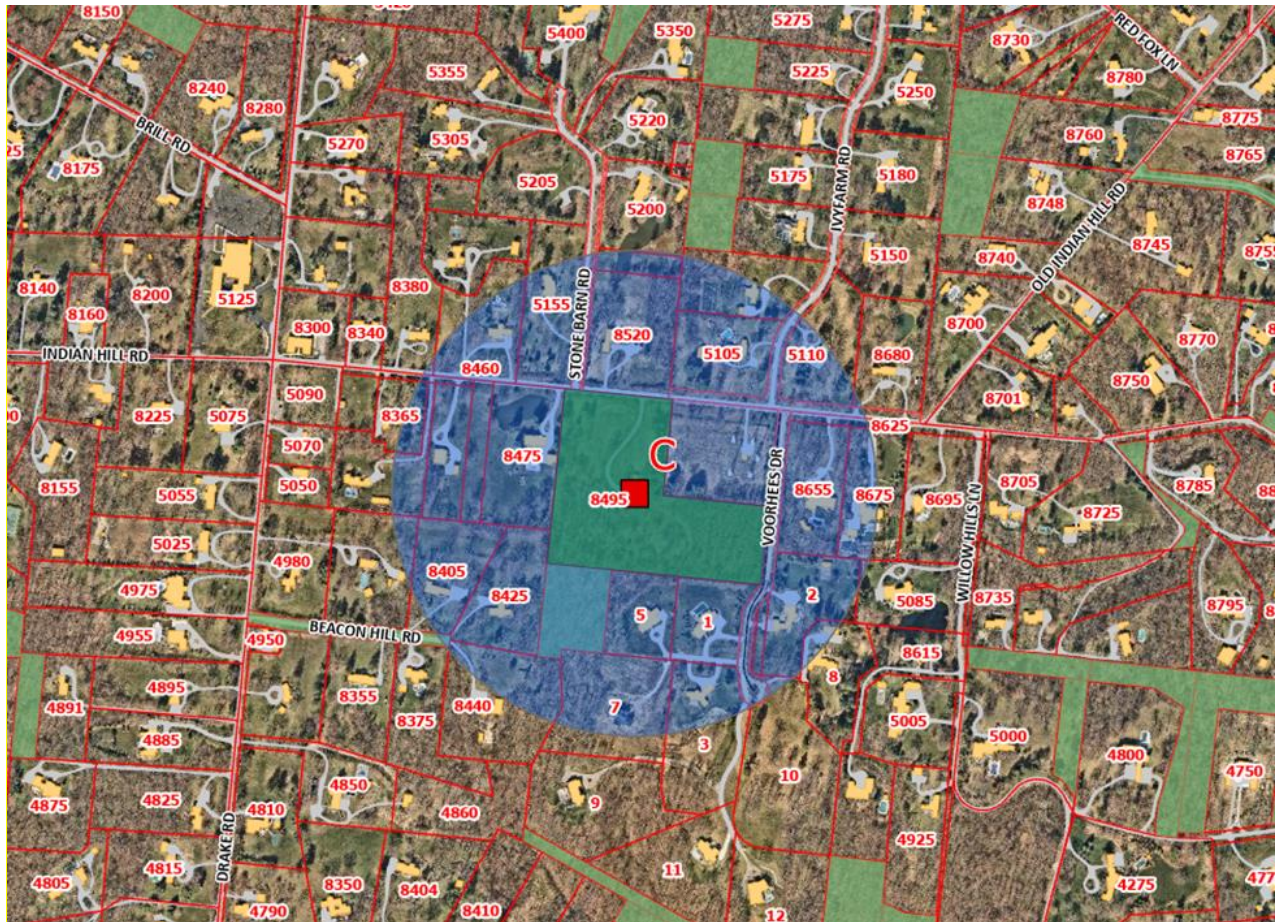
Approximate Ground Elevation: 850' MSL **Desired HGL Elevation:** 967' MSL
Approximate Proposed Tower Height to HGL: 117'

Site Work Considerations & Water Transmission Main Needs:

- Replacement and upsize of the dual water mains to a single 20 transmission main along Shawnee Run Rd. west of Drake Rd. will be necessary. (Approx. length: 4,600'). This project has already been contemplated and is expected to occur during a near-future project that includes storm sewer improvements to alleviate street flooding and full road depth reconstruction due to a failed concrete base under the asphalt surface.
- Traffic on Miami Rd. west of Drake Rd. will be impacted by construction of the water main (as well as storm sewer and road reconstruction).
- Tree removals on-site, and repaving of the driveway to Camp Jim B will be necessary.

Site C Radio Range Park on Indian Hill Rd.

Overall Assessment: **Not Recommended**



Number of Residences Abutting Tower Property: 6
Number of Residences within 1,000' Radius of Tower: 18

Property Status:

- + Village-owned
- + Will meet zoning code for yard setback requirements
- Not a central location to the water system, impacts fire flows
- Utility structures not permitted by property deed, land transferred to the Village from Federal Government for recreation only
- Metal structures, even metal roofs on residences are not permitted in the vicinity due to radio tower interference

Approximate Ground Elevation: 872' MSL Desired HGL Elevation: 967' MSL
Approximate Proposed Tower Height to HGL: 95'

Site Work Considerations & Water Transmission Main Needs:

- Replacement and upsize of the 12" water mains to a 16" transmission main along Drake Rd. between Graves Rd. and Indian Hill Rd., and along Indian Hill Rd. from Drake Rd. to Voorhees Dr., and Voorhees Dr. to the tower will be necessary. (Approx. length: 7,400')
- There is not a looped transmission main system available for Indian Hill Rd., which is important for system reliability. Potential route for water transmission main is Indian Hill Rd – Old Indian Hill Rd. – US 50 – SR 126, extending

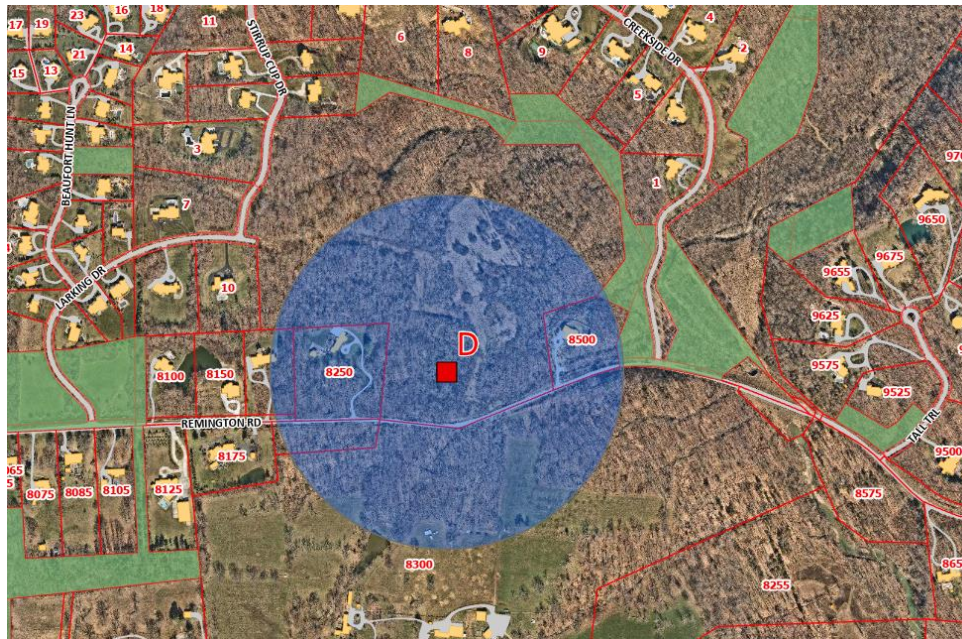
outside the Village's jurisdiction. (Approx. length: 15,000') Obtaining permit approval for work within the ROW on US 50 and SR 126, in particular, will cause delay in the project start, and may be subject to timing limitations and additional requirements, such as repaving the non-Village roads.

- Traffic on several major thoroughfares will be impacted by construction of water mains.
- Tree removals on-site, and repaving of the driveway on the property will be necessary. Reforest the Hill tree donations and the John Bentley Memorial Tree Grove may also be at-risk.

Site D

Parcels of Twin Fences Subdivision on Remington Rd.

Overall Assessment: **Not Recommended**



Number of Residences Abutting Tower Property: 3 Currently, TBD
Number of Residences within 1,000' Radius of Tower: 3 Currently, TBD

Property Status:

- + Privately-owned, but available for purchase
- + Will meet zoning code for yard setback requirements
- Not a central location to the water system, impacts fire flows
- Purchase of property may impact and delay the developer's plans for Phase 3 of the subdivision

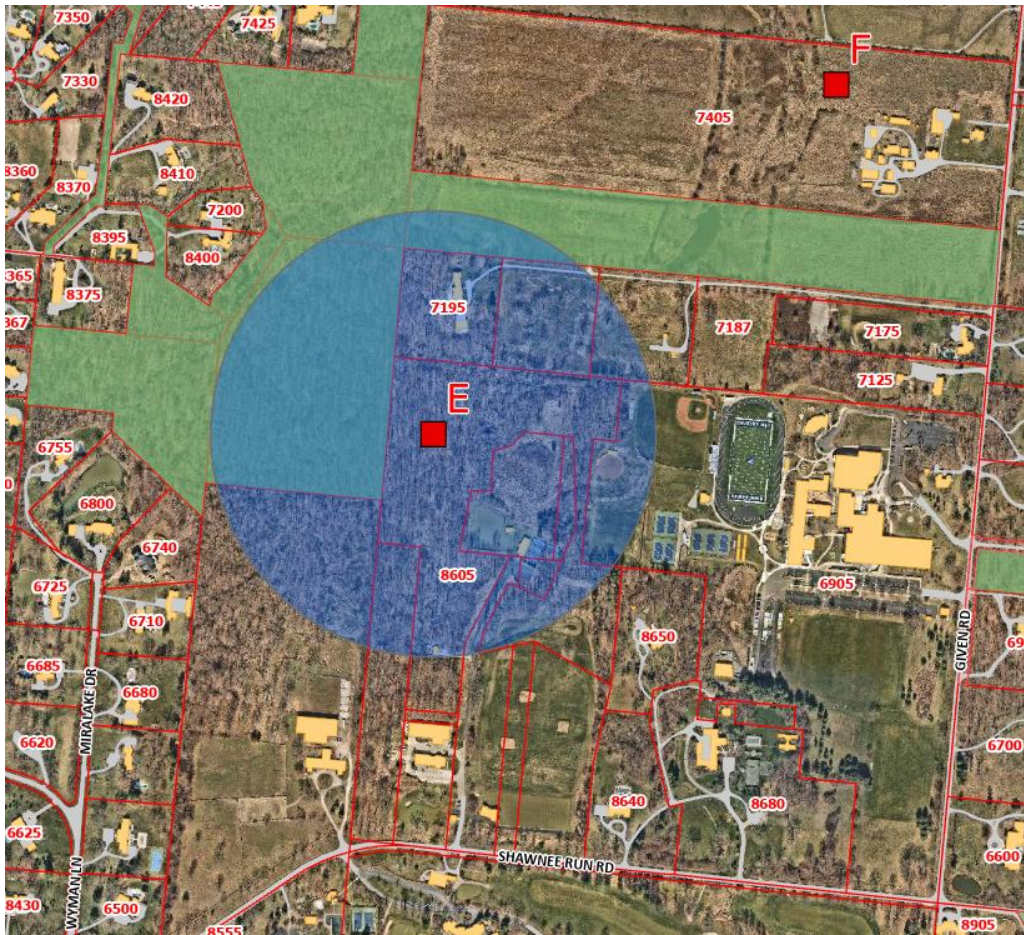
Approximate Ground Elevation: 700' - 720' MSL **Desired HGL Elevation:** 967' MSL
Approximate Proposed Tower Height to HGL: 247' – 267'

Site Work Considerations & Water Transmission Main Needs:

- Replacement and upsize of the 8" and 12" water mains to a 16" transmission main along Given Rd. north of Cunningham Rd., Spooky Hollow Rd. between Given Rd. and Loveland-Madeira Rd., Loveland-Madeira Rd. between Spooky Hollow Rd. and Remington Rd., and Remington Rd. to the tower site will be necessary. (Approx. length: 16,700')
- Construction of the above water main will include two major waterway crossings and a railroad crossing, which will delay and add expense to the project.
- There is not a looped transmission main system available for Remington Rd., which is important for system reliability. Potential route for water transmission main is Remington Rd. – Main St. – Cooper Rd. / Blome Rd. – Camargo Rd. – Drake Rd. to Shawnee Run Rd, extending outside the Village's jurisdiction. (Approx. length: 17,000')
- Construction of both above proposed water main alignments include some sections of water mains which were recently replaced, and roadways which were recently repaved.
- Traffic on several major thoroughfares will be impacted by construction of the water mains. The timing of Phase 3 of the Twin Fences subdivision may require the Village to build or repave the extension of Larking Dr. for the developer, or void the performance and warranty bond for the privately-installed street.

Site E
Camargo Club on Shawnee Run Rd.

Overall Assessment: Not Recommended



Number of Residences Abutting Tower Property: 1
Number of Residences within 1,000' Radius of Tower: 2

Property Status:

- + Will meet zoning code for yard setback requirements
- + A central location to the water system
- Privately-owned and owner is not willing to sell land
- Pursuit of property acquisition would be through Eminent Domain, adding cost, delay and poor public relations

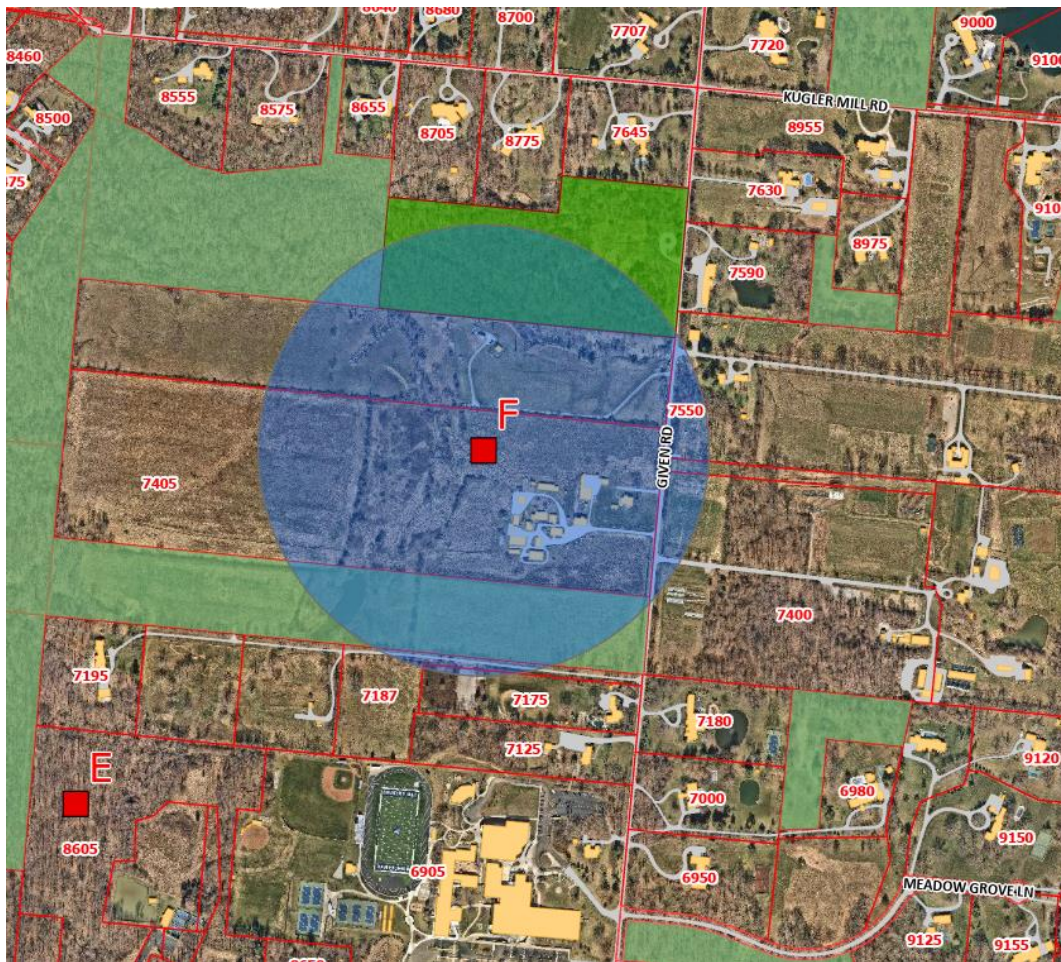
Approximate Ground Elevation: 844' MSL **Desired HGL Elevation:** 967' MSL
Approximate Proposed Tower Height to HGL: 123'

Site Work Considerations & Water Transmission Main Needs:

- + Adequately sized transmission mains already exist along Shawnee Run Rd. Only an extension off Shawnee Run Rd. to the tower site will be necessary. (Approx. length: 1,400')
- + Only intermittent interruptions to traffic on Shawnee Run Rd. are expected for construction vehicle ingress/egress.
- Tree removals on-site, and paving of the driveway to the tower site will be necessary.

Site F
Grob Property on Given Rd.

Overall Assessment: Not Recommended



Number of Residences Abutting Tower Property: 1
Number of Residences within 1,000' Radius of Tower: 1

Property Status:

- + Will meet zoning code for yard setback requirements
- + A central location to the water system
- Privately-owned, purchased by Turner Farm

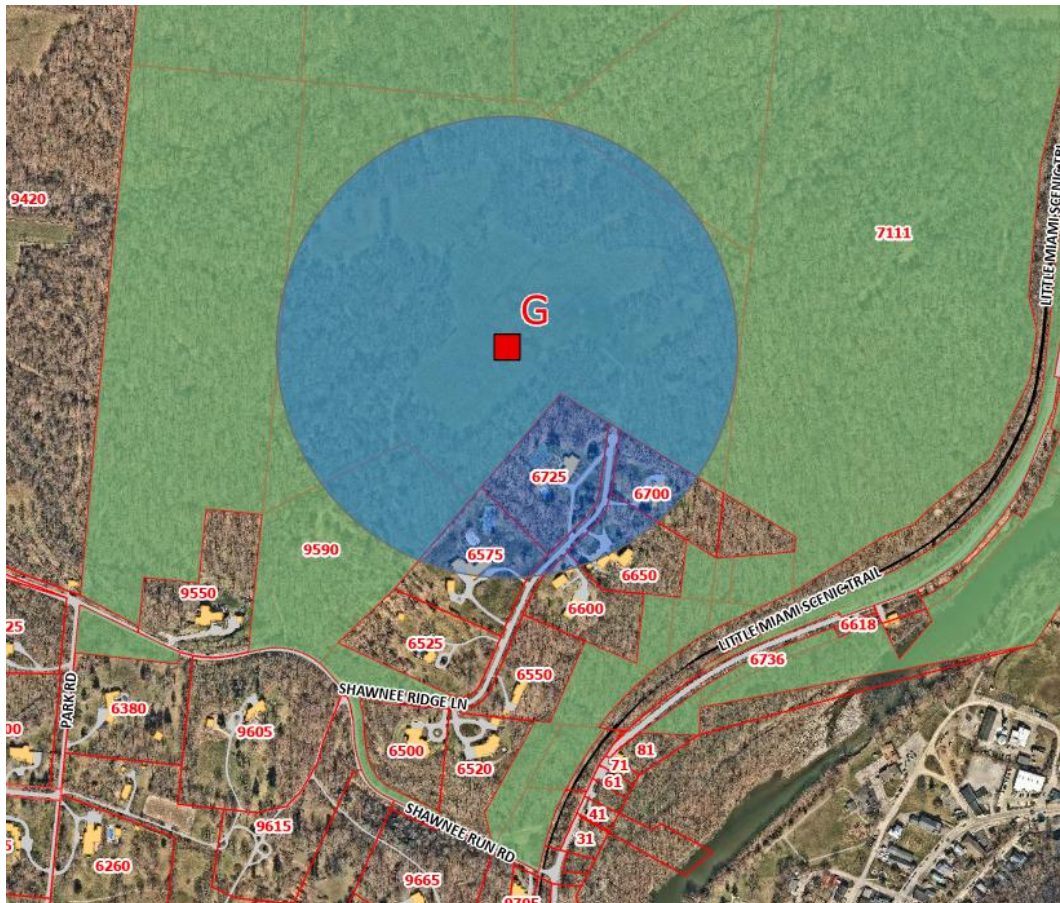
Approximate Ground Elevation: 840'-852' MSL **Desired HGL Elevation:** 967' MSL
Approximate Proposed Tower Height to HGL: 115' - 127'

Site Work Considerations & Water Transmission Main Needs:

- + Adequately sized transmission mains already exist along a portion of Given Rd. Only an extension off Given Rd. to the tower site will be necessary. (Approx. length: 200' – 2,000' depending on desired setback)
- + Only intermittent interruptions to traffic on Given Rd. are expected for construction vehicle ingress/egress and water main tie-in.
- + Tree removals on-site would be very limited.
- The majority of the property is wide open and highly visible.
- Construction of a driveway to the tower site will be necessary.

Site G
Clippinger Field on Shawnee Ridge Ln.

Overall Assessment: **Not Recommended**



Number of Residences Abutting Tower Property: 3
Number of Residences within 1,000' Radius of Tower: 3

Property Status:

- + Will meet zoning code for yard setback requirements
- + A central location to the water system
- Village-owned, but deed restricted by green areas trust

Approximate Ground Elevation: 770' - 780' MSL Desired HGL Elevation: 967' MSL
Approximate Proposed Tower Height in HGL: 187' - 197'

Site Work Considerations & Water Transmission Main Needs:

- + A transmission main would need to be extended along Shawnee Ridge Ln. to the tower site will be necessary.
(Approx. length: 2,600' - 3,500' depending on desired location)
- + Only intermittent interruptions to traffic on Shawnee Run Rd. are expected for construction vehicle ingress/egress and water main tie-in.
- + Tree removals on-site would be very limited.
- Traffic on Shawnee Ridge Ln. will be impacted by construction of the water main.
- Construction of a driveway to the tower site will be necessary.
- 1 to 2 Camargo Hunt events will be affected during construction.