

VILLAGE OF LIBERTYVILLE  
BOARD OF TRUSTEES  
WATER & SEWER COMMITTEE

Tuesday, April 12, 2016  
7:00 pm  
Village Hall

Agenda

1. Call to Order
2. Minutes of March 8, 2016 Meeting
3. Water & Sewer Capital Improvement Projects Updates
4. Water & Sewer Rate Study
5. Response to Lead in Water Article
6. Other
7. Adjournment

VILLAGE OF LIBERTYVILLE  
BOARD OF TRUSTEES  
WATER & SEWER COMMITTEE

Tuesday, March 8, 2016

7:00 pm  
Village Hall

MINUTES

Attendance

Committee: Trustee Donna Johnson, Trustee Rich Moras  
Village Board: Mayor Terry Weppler, Trustee Scott Garrity  
Staff: Deputy Village Administrator Kelly Amidei, Director of Public Works Paul Kendzior, Assistant to the Director Laura Ditanto, Police Chief Clint Herdegen  
Others: Eric Callocchia – Municipal & Financial Services Group (MFSG)  
Absent: Trustee Scott Adams, Village Administrator Kevin Bowens, Finance Director Pat Wesolowski

Agenda

Call to Order at 7:24 pm

1) **Minutes of February 9, 2016 Meeting**

The minutes were approved as written.

2) **Water & Sewer Capital Improvement Projects Updates**

a) 911 & 915 W. Park Avenue Watermain Easements:

The Board at the January 26th meeting authorized Staff and the Village Attorney to move forward with eminent domain proceedings in order to obtain the necessary watermain easements. The Village Attorney has been in discussions with the property owner. The property owner has until April 1, 2016 to accept the Village's offer which will be the appraisal price less the outstanding judgement. The Village has also agreed to include the owner's guarantees about possible watermain failure in the easement agreement.

b) 2016 Underground Utility Improvements Program:

The construction contract has been awarded to Trine Construction. Watermain replacement work will occur on Johnson Avenue, Merrill Court, Wheeler Court, West Ellis Avenue, East Ellis Avenue and Fourth Avenue at Paddock Lane. Construction is expected to begin in approximately one month.

3) **Water & Sewer Rate Study**

Eric Callocchia of MFSG gave a PowerPoint presentation to the Committee.

Projects Cost Summary – Water: Operating expenses average an increase of 1.5% per year until 2020 when JAWA rates drop from paying off capital debt, thereafter, an average 2% increase is

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projected from 2022 to 2025.

Projected Cost Summary – Sewer: Operating expenses average an increase of 3.8% per year. This will fund all existing and proposed capital projects. Future capital funded 83% by new debt.

Projected Consumption Summary: Billed sewer usage is on average about 9% lower than billed water consumption due to the cap on sewer usage based on winter water consumption. Minor increases in consumption due to customer growth projected in FY 2017 and FY 2018, otherwise 0% growth.

Projected Revenue Needs – Water: The first three years, rates will need to be raised 5% to maintain projected revenue needs.

Projected Revenue Needs – Sewer: The first three years, rates will need to be raised 20% to maintain projected revenue needs.

Projected Utility Fund Cash Balance: The projected cash balance under the proposed rates hold steady at \$3 million for the first three years and is projected to rise to \$9 million by FY2025.

Proposed Water Rate Structure: Inclining Block Rate

- Fixed Bi-Monthly Fee of \$22.83 (no usage included) Applying the Senior Discount to the fixed fee would be  $\$22.83 - \$2.70 = \$20.13$ .
- Tiered Rate Structure per 1,000 gallons:
  - Tier 1 – Up to 4,000 gallons = \$2.40
  - Tier 2 – From 4,000 to 8,000 gallons = \$4.81
  - Tier 3 – Over 8,000 gallons = \$7.21

Proposed Sewer Rate Structure: Inclining Block Rate

- Sewer usage capped at 110% of winter water usage
- Fixed Bi-Monthly Fee of \$7.66 (no usage included) Applying the Senior Discount to the fixed fee would be  $\$7.66 - \$6.25 = \$1.41$
- Unit rate for all usage = \$4.68 per 1,000 gallons

MFSG examined the possibility of raising the Summer Sewer Discount to 125%, versus the current rate of 110%. At 125%, the Village would bill about 15% of total annual water usage. This would translate into a 12% decrease in the sewer rate (same revenue generated). Rate could go from \$4.68 to \$4.12. MFSG recommends running several sample billing cycles to confirm the proper revenue generation of the above stated rates. Callocchia stated that the average Summer Sewer Rate is 120% - 130%, and the Village rate of 110% is on the lower end.

Senior Rate: MFSG balanced out those that get the senior rate and those that do not to calculate the \$7.66 fixed rate.

Impact of Rate Structures: Under the inclining block rate structure in FY 2017, rates would only go up 3.7% from 2016. Using the current rate structure, rates would increase 11% from FY 2016 to 2017 for residential rates.

A resident in the audience requested that Staff look at the billing arrangement for Riva Ridge.

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Riva Ridge units are between four to ten units per meter.

The Committee requested to continue the discussion at the April meeting. There are still open questions before making a rate recommendation.

4) **Revised Franchise Utility Permit Conditions**

Due to concerns with directionally drilling operations for new electrical, communications and gas lines, Public Works Engineering Division Staff implemented a few revisions to the Village's Franchise Utility Permit Conditions. Most notable revisions include "potholing" (exploratory excavations) of the Village's utilities along with private sewer laterals prior to commencing work and post-construction televising of the main line storm and sanitary sewers, including service laterals. These revisions were the result of a residential sanitary sewer service being damaged recently by ComEd's contractor on Valley Park Drive. Staff is not asking the utility companies to do any more than contractors.

Adjournment at 7:55 pm

Respectfully Submitted:

Laura Ditanto, Assistant to the Director

## **Memorandum**

To: Water & Sewer Committee

From: Public Works Staff

Date: April 12, 2016

Re: Staff Report

### Item 3: Water and Sewer Capital Improvement Projects Updates

a) 911 & 915 W. Park Avenue Watermain Easements:

The Village Attorney spoke with the property owner on April 6, 2016. A meeting between the Village and property owner has been scheduled for April 8, 2016 to discuss the installation and setback issues. The executed easement agreement should be completed the following week.

b) 2016 Underground Utility Improvements Program:

The construction contract was awarded to Trine Construction at the February 23rd Board meeting. Watermain replacement work will occur on Johnson Avenue, Merrill Court, Wheeler Court, West Ellis Avenue, East Ellis Avenue and Fourth Avenue at Paddock Lane. Construction has begun, with work starting on West Ellis Avenue and Merrill Court.

### Item 4: Water & Sewer Rate Study

Eric Callocchia from Municipal & Financial Services Group will once again be in attendance to discuss with the Committee of finalizing the rate study. The main points of discussion will include:

- a) Recommendation to treat customers like Riva Ridge that are tied to one meter still as one account (per meter) as opposed to individual accounts in order to keep the proposed increases consistent with the rest of the customer base.
- b) Recommendation to utilize a cap of 125% on winter sewer usage for the summer in order to reduce the sanitary sewer rate increase for FY 2017/18 and FY 2018/19 (the second and third years).
- c) Provide a recommendation to the Committee and Village staff for the new rate structure.
- d) Schedule a presentation to the full Board at the next available Board meeting.

### Item 5: Response to Lead in Water Article

The Daily Herald began a series of articles and editorials on the subject of lead in the water system, which started on March 28th. The first of these articles is attached and Libertyville is mentioned as a community that had a sole high lead test result at 720 parts per billion (PPB), which is above the Action (allowable) Limit of 15 ppb. In response to this article, we would like to provide the Committee with background of our water system.

The Village purchases its domestic water from the Central Lake County Joint Action Water Agency (CLCJAWA). Water distribution mains then deliver the water throughout the Village. A service line from the main then delivers the water to each home and business. The major source of lead in the water supply would be from lead service lines and fixtures and faucets inside the home or business. A lead service can be identified by its dull gray color, can be scratched with a key and is not magnetic. This is particularly common in, but not exclusive to structures built before World War 2. CLCJAWA adds orthophosphate to their water, which is a certified corrosion inhibitor that coats the inside of pipes and

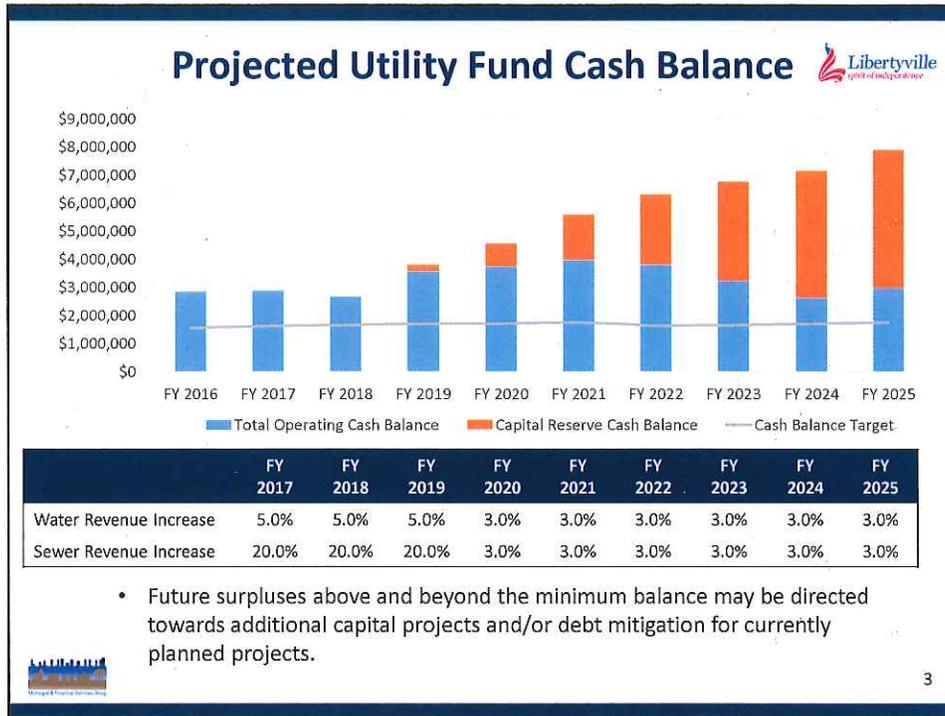
prevents lead from leaching into the water supply. This was not done when the city of Flint, Michigan converted their water supply from the City of Detroit to the Flint River.

The Village does test for lead in the water system every three years under the direction of the Illinois Environmental Protection Agency. The last testing was completed in 2014. As part of this testing program, the Village collected and analyzed 30 representative samples. 15 sampling locations must come from homes with lead service lines. From the testing in 2014, we had one sample over the Action Limit of 15 parts per billion (ppb). Two other samples had traces of lead, but well below the Action Limit. The other 27 had no traces of lead. The 90 percentile is used for the final results, which was 0.00 ppb for lead in our water supply. The Village also completes and publishes an annual Consumer Confidence Report (which is also referred to as the Water Quality Report) under the direction of the IEPA. The Report contains pertinent information on the Village's water system, including numerous test results for a wide range of contaminants, including lead. A copy of the 2015 Water Quality Report is also attached. Distribution requirements only include the inclusion of a link to the Report, which is on the Village's website. For this year's Report, Staff desires to professionally print and distribute via a bulk mailing to all our water customers. This will cost approximately \$2,000, in which we are reviewing the FY 2016/17 Budget to ensure that funds are available to cover this expenditure.

The Village is committed to providing a safe and reliable water supply to all of our customers. If lead service lines from the main to the B-Box (outside shut-off valve) are encountered as part of the Village's annual water main replacement programs, they are replaced with copper and the property owner is encouraged to replace the remaining portion of the service that they are responsible for. The Village's Water Connection Upgrade Fee will also be waived.

Staff has included this information in the upcoming Village Views, which also contains details on how a property owner can obtain a lead test kit. Test kits can be picked up and dropped off at the Lake County Environmental Laboratory located at the County's Central Permit Facility, which is located at 500 W. Winchester Road, Libertyville, IL 60048. The cost of the test kit is \$25.00. We have also encouraged residents and business owners that are concerned if they may have a lead water service or have any questions regarding lead to please contact our Streets & Utilities Division to schedule an appointment for an inspection by our staff.

To conclude, the Committee may want to consider a further incentive for residents to replace their portion of the lead service line. A typical construction cost is approximately \$3,500. Under the current incentive plan of waiving the Connection Upgrade Fee, there are still not very many residents who are replacing their lead service lines.



### Proposed Water Rate Structure

- Current Water Rate Structure:**
  - Bi-Monthly Minimum charge = \$30.69
  - Unit rate for usage above 4,000 gallons = \$6.40 per 1,000 gallons
- Proposed Rate Structure:**
  - Fixed Bi-Monthly Fee of \$22.83 (no usage included)
  - Tiered Rate structure per 1,000 gallons:
    - Tier 1 – Up to 4,000 = \$2.40
    - Tier 2 – From 4,000 to 8,000 = \$4.81
    - Tier 3 – Over 8,000 = \$7.21

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## Proposed Sewer Rate Structure



- Current Sewer Rate Structure:
  - Sewer Usage capped at 110% of winter water usage
  - Bi-Monthly Minimum charge = \$21.42
  - Unit rate for usage above 4,000 gallons = \$4.13 per 1,000 gallons
  
- Proposed Rate Structure:
  - Sewer usage capped at 110% of winter water usage
  - Fixed Bi-Monthly Fee of \$7.66 (no usage included)
  - Unit rate for all usage = \$4.68 per 1,000 gallons
  
- What if the cap on winter water usage was increased?
  - The Village has several options:

	Bill 110% Of Water	Bill 125% of Water	Bill 125% of Water*
Fixed Bi-Monthly Fee	\$7.66	\$7.66	\$7.66
Unit Rate per 1,000 Gallons	\$4.68	\$4.12	\$4.68
<b>Rate Revenue</b>	<b>\$3,261,164</b>	<b>\$3,261,164</b>	<b>\$3,666,203</b>
Revenue Difference	-	-	\$405,039

\* Effective 37% Increase In Revenue



## Impact of Water Rate Structure on Riva Ridge



Units	Usage	Current Bill	New Bill as One account	% Increase	New Bill as Individuals	% Increase
4	20	\$220.59	\$239.50	9%	\$273.28	24%
2	57	\$610.20	\$679.53	11%	\$693.07	14%
4	30	\$325.89	\$358.43	10%	\$387.16	19%
3	20	\$220.59	\$239.50	9%	\$261.90	19%
2	11	\$125.82	\$132.47	5%	\$155.62	24%
4	160	\$1,694.79	\$1,904.48	12%	\$1,909.42	13%
4	20	\$220.59	\$239.50	9%	\$273.28	24%
3	20	\$220.59	\$239.50	9%	\$261.90	19%
3	20	\$220.59	\$239.50	9%	\$261.90	19%
3	20	\$220.59	\$239.50	9%	\$261.90	19%



### Summary of Recommendations

- FY 2017 Water Rate Structure:
  - Fixed Bi-Monthly Fee of \$22.83 (no usage included)
  - Tiered Rate structure per 1,000 gallons:
    - Tier 1 – Up to 4,000 = \$2.40
    - Tier 2 – From 4,000 to 8,000 = \$4.81
    - Tier 3 – Over 8,000 = \$7.21
- FY 2017 Sewer Rate Structure
  - Sewer usage capped at 125% of winter water usage
  - Fixed Bi-Monthly Fee of \$7.66 (no usage included)
  - Unit rate for all usage = \$4.68 per 1,000 gallons
- Annual revenue increases of:
 

	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Water Fund	5.0%	5.0%	5.0%	3.0%	3.0%
Sewer Fund	20.0%	12.0%	12.0%	3.0%	3.0%

  - Increases in FY 2020 through FY 2025 recommended at 3% per year

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### Projected Utility Fund Cash Balance

	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Water Revenue Increase	5.0%	5.0%	5.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Sewer Revenue Increase	20.0%	12.0%	12.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%

- Future surpluses above and beyond the minimum balance may be directed towards additional capital projects and/or debt mitigation for currently planned projects.

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Columns | updated: 3/28/2016 7:46 AM

# In light of Flint water crisis, is there lead in our supply?



Video: Water testing for lead



Jake Griffin

*Editor's note: This is Part 1 of a continuing series on suburban water quality. Part 2: How Antioch solved the problem of lead in its water*

Libertyville's annual water quality report told residents last year that one of the mandated 30 samples taken routinely from homes throughout the village in 2014 yielded lead results above the U.S. Environmental Protection Agency's "action level."

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What it failed to mention was that the single sample had lead levels 48 times higher than the federal warning level.

"That's definitely something I would want to know about, and it does give me great concern," said Michael Womack, who lives kitty-corner from the home where the sample originated. "We have the oldest house in town, and I know we have a lead line that comes into our house from the street. If they're getting those kinds of results over there, we may have the same problem, right?"

The issue in Womack's neighborhood may be -- and in fact, likely is -- an isolated situation that can be resolved individually by the homeowner. But it emphasizes the need for testing and for understanding the results, even in suburban communities unaffected by broad systemic problems like those that have made Flint, Michigan, infamous.

Despite the lead results from Womack's neighbor's house of 720 parts per billion, the highest level among the 2,967 suburban samples in a Daily Herald analysis of suburban water systems, it wasn't enough to trigger a systemwide notification.

Federal guidelines suggest any drinking water sample with lead at more than 15 parts per billion in a liter of water is a health hazard, particularly to children. But unless more than 10 percent of the samples from a water system are above that level, no action is required.

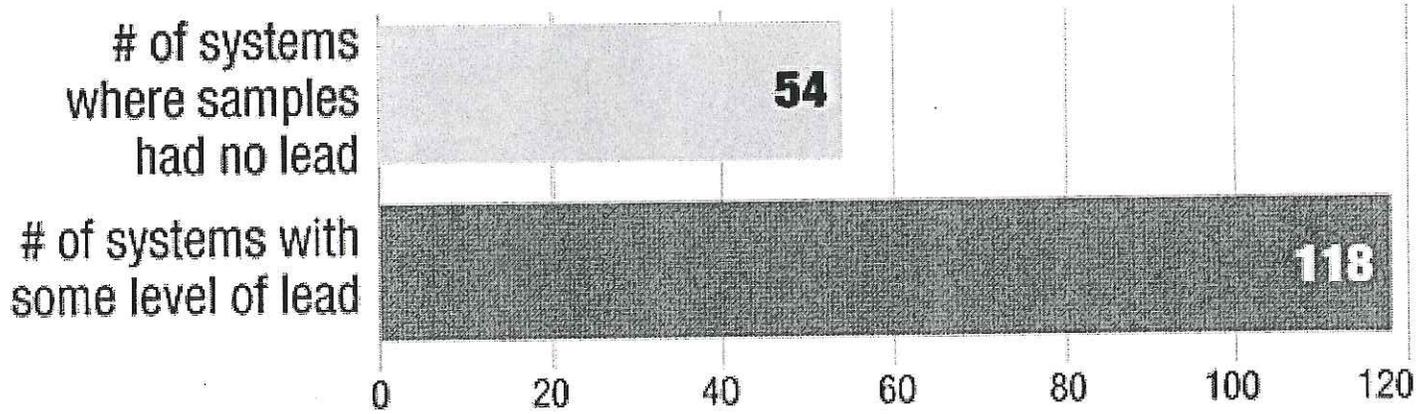
And there is no requirement that neighbors be alerted about elevated levels at test sites, even though homes likely to have lead issues are targeted for testing.

By comparison, the average lead count in Flint's troubled water supply was at 27 parts per billion at the height of its ongoing water crisis (<https://www.washingtonpost.com/news/wonk/wp/2016/01/15/this-is-how-toxic-flints-water-really-is/>). Some Flint homes recorded lead levels in excess of 13,000 parts per billion.

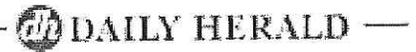
Meanwhile, public health experts have suggested any water supply with lead over 5 parts per billion is a health risk. (<http://flintwaterstudy.org/wp-content/uploads/2015/08/interpretation.pdf>)

# Liquid lead

Drinking water samples from 70 percent of the 172 water systems serving 89 suburban communities were found to have some measurable level of lead.



Source: Illinois Environmental Protection Agency



The analysis of lead testing results for 172 public drinking water systems in 89 suburban communities revealed 8.2 percent of the samples taken from 2013 to 2015 contained levels in excess of 5 parts per billion in a liter of water. Additionally, 47 samples taken during that time were also above the federal action level, according to public records obtained from the Illinois Environmental Protection Agency's website.

However, because the results showed sporadic spikes throughout the suburbs, none of the systems were in violation of federal lead limits and the water supply is considered safe.

While Libertyville officials say the lead levels in the home of Womack's neighbor are easily remedied by running the water for a few minutes before drinking it or using it for cooking, Womack and the homeowner, who spoke with the Daily Herald but declined to be identified or quoted, said the village could have done a better job of notifying and teaching residents about potential lead problems.

## Is this like Flint?



**Lead contamination is one of dozens of impurities McHenry Analytical Water Laboratory chemist Billie Jean Anthony tests for when samples from area drinking water supplies are sent to her.** - Brian Hill | Staff Photographer

While more than two-thirds of the suburban water systems in the Daily Herald analysis had at least one sample come back with a recordable lead level -- which could be as little as one part per billion -- none showed contamination as widespread or as serious as that found in Flint.

Switching Flint's water supply from Lake Huron to the Flint River created wholesale lead contamination throughout the city ([http://www.mlive.com/news/flint/index.ssf/2015/10/how\\_the\\_flint\\_water\\_crisis\\_eme.html#5](http://www.mlive.com/news/flint/index.ssf/2015/10/how_the_flint_water_crisis_eme.html#5)). The corrosive river water caused lead in the city's distribution pipes to leach into the entire city's water supply.

Locally, there was nothing in the IEPA reports to indicate water from Lake Michigan, wells or a river source created a greater risk of lead contamination.

Older plumbing equipment, cheap fixtures, flawed sampling and even road construction can cause lead to appear in water samples.

Here in the suburbs, officials follow a set routine for identifying potential problems. Lead is only one of several contaminants that can jeopardize a water system, but it's the only one for which system operators rely on property owners to provide the sample specimen.

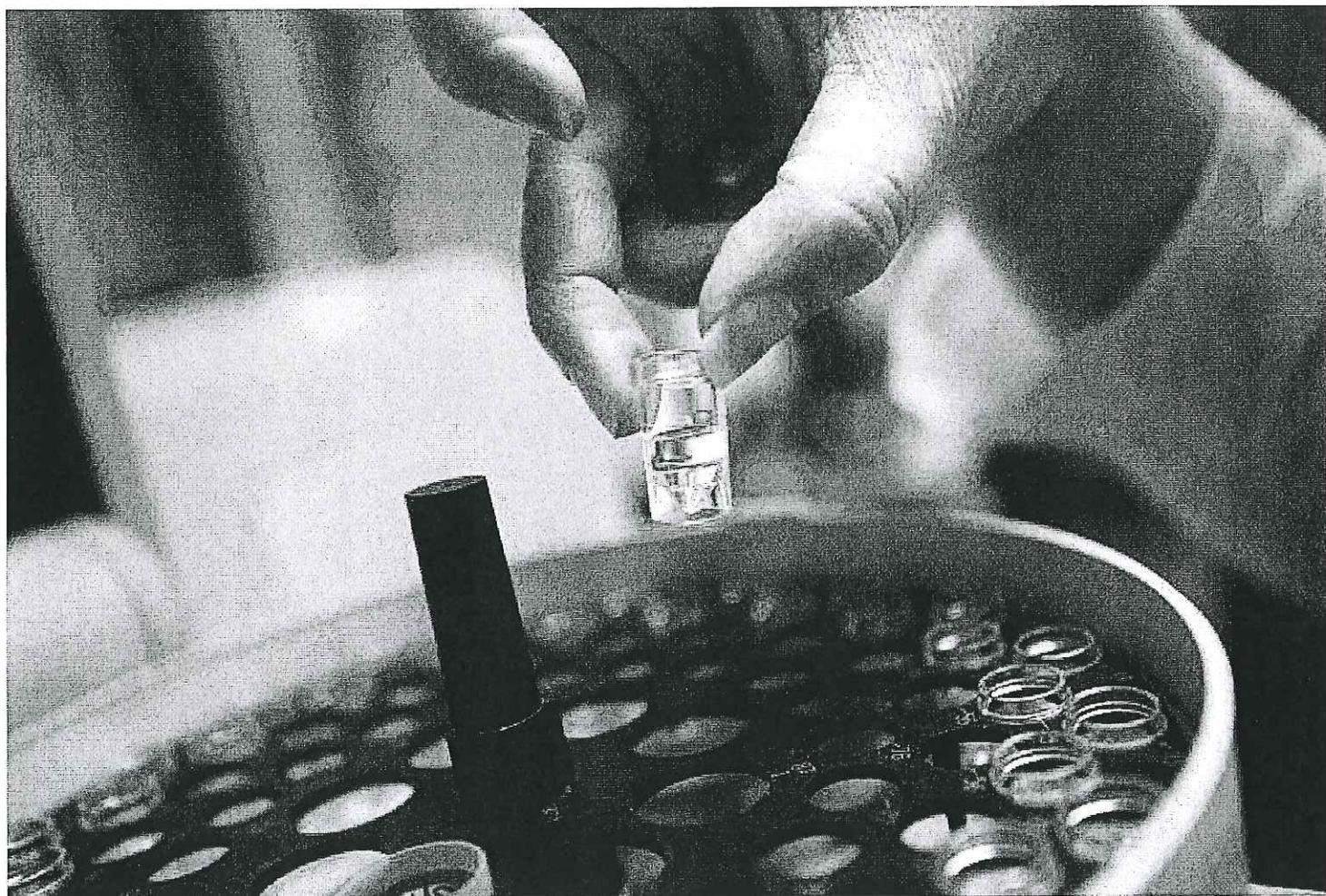
Sampling mandates are based on population. Most suburban water systems are required to test 30 samples every three years. Four or more samples would have to exceed the federal limit for the government to trigger intervention.

From 2013 to 2015, nine water systems came close when 10 percent of the samples had lead levels exceeding the federal threshold, according to IEPA records. One of those water systems was in Wauconda, where three of the 30 samples recorded levels above the government limits.

"There are many things that can cause high readings," said Alex Pryde, Wauconda's superintendent of public works. "When we discover issues with samples, we send a couple guys around to explain what the levels mean and what we need them to do, and there's a checklist to go through if we have to take another sample. But in the end, our water is good."

Of Wauconda's 30 water samples in 2015, 16 recorded lead levels anywhere from 42.1 parts per billion to 2 parts per billion, according to IEPA records. The average lead count for all 30 Wauconda samples was 4.63 parts per billion.

But village officials contend these numbers are inflated because the state requires towns to use sampling sites that "are most likely to have high levels of lead and/or copper caused by the contact of corrosive water with lead and copper-containing plumbing materials," according to an IEPA policy manual. They believe the results are not indicative of the kind of water coming out of most residents' taps.



**McHenry Analytical Water Laboratory is a popular choice among the 172 drinking water systems in 89 suburbs to receive samples to test for more than 130 different types of contaminants.** - Brian Hill | Staff Photographer

The samples also are a liter of the faucet's "first draw," which requires the tap to be unused for at least six hours to ensure any sediments or other contaminants have settled.

In light of Flint water crisis, is there lead in our supply?

"That first draw sample is what's potentially going to be the worst, because the water has settled for a long time in the pipes, and that's usually where the lead comes from," said Theresa O'Grady, group manager for water resources at the Aurora-based engineering firm Crawford, Murphy & Tilly.

Lead testing sites are selected from a list of properties most likely to register a lead reading. If those samples are clean, then it's presumed that the rest of the system is safe. If multiple samples reveal contamination, then officials know to increase monitoring to determine how widespread the problem is.

Property owners have to agree to participate in the testing program since they are responsible for collecting the sample. The water system operators provide property owners with equipment and instructions, then the water samples are shipped to a lab for testing.

Several labs in the suburbs, including Suburban Laboratories in Geneva (<http://suburbanlabs.com/>) and McHenry Analytical Water Laboratory (<http://mchenrylab.com/>) in McHenry, handle the majority of local system testing. Most of these companies also provide testing services to any property owner. A simple lead test runs about \$50, officials said.

"And anything we get for compliance testing, the results go directly to the state and are uploaded to the IEPA," said Patrick Rodriguez, customer service manager at Suburban Laboratories. "In the end, anyone whose water is tested has to get notified of the results. It's the law."

Wauconda officials said all property owners in the program receive their test results and are advised of how to mitigate any lead contamination. In the meantime, they advise property owners to follow Centers for Disease Control guidelines (<http://www.cdc.gov/nceh/lead/tips/water.htm>), which suggest users flush out taps by letting the water run for several minutes before using it to drink or cook with.

## How will you know?



**Liters of drinking water are sent to McHenry Analytical Water Laboratory, where chemists like Penny Janus separate the samples into smaller amounts and put them into machines to determine lead levels in the water. Janus explains how it works.** - Brian Hill | Staff Photographer

Each operator of a public drinking water system issues a brief synopsis of the system's most recent test results every year called a Consumer Confidence Report. Its contents are mandated by the federal government but don't provide much in the way of specifics.

Libertyville issued a separate water quality report in 2015 and mailed it to all the town's water customers, but the owner of the home with the extraordinarily high lead sample said that's all he received from the village in regards to his water quality, and he had no idea his lead levels were so high until a reporter called to ask him about the results.

Three years earlier, a sample taken from the same house recorded lead levels at 7.93 parts per billion, according to IEPA records.

Village officials said all lead-testing participants receive the results of their samples in a mailing sent to the property where the test was conducted. The village doesn't keep records of correspondence with homeowners and could not verify that the homeowner had received the lead test results, officials said.

"Our protocol is to call and speak with property owners and send them a form letter," said Paul Kendzior, Libertyville's recently hired public works director.

The letter also instructs property owners how to mitigate lead from their water, village officials said.

Womack suggested the village should let neighbors know as well, since many residential properties are built around the same time with the same materials.

"I don't know if there's a reason to be concerned yet, but it would be something I'd be interested in knowing," he said.

It's unknown what caused the elevated results for the sample in Libertyville. Kendzior believes it's the service line that connects the home to the water main, but the homeowner said the house's plumbing was gutted and replaced. Village officials said they've offered to retest the property's water.

Though Libertyville wasn't the only place to have an extraordinarily high lead sample result in the past three years, some towns are more proactive about determining the source of the contamination.

When Lincolnshire Utilities Superintendent Terry Hawkins received the lead testing results for the village in September 2014, he admitted he was surprised to see one sample recorded at 519 parts per billion. The village dispatched a water crew to Jack and Violet Graber's home to figure out why there was so much lead in their sample. Since the village doesn't have any lead water lines, Hawkins said he knew "any issue we have is internal to the home."

Soon enough, the investigation revealed the culprit. The Grabers' sample was taken from their rarely used first-floor bathroom sink, drawn from an ornate, decorative faucet. They removed the decorative faucet and replaced it with equipment that contained no lead.

"We would have had no idea otherwise," Violet Graber said. "I would highly encourage anyone to participate in their town's water testing program if they're asked, or at least get your water tested. It's very worthwhile."

- Monday: How towns react when lead is found.

## Article Comments (0)

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# Village of Libertyville

Get More Involved in  
your Water



The Village Board has a monthly meeting schedule, and the public is always welcome to attend any of these meetings. Our Mayor is also a member of the Board of Directors of CLCJAWA, which meets on the fourth Wednesday of each month. CLCJAWA provides tours of the water treatment facility, and staff members are also available for public speaking or for school visits. Please contact the Village or CLCJAWA

## 2015 Annual Water Quality Report

### Dear Water Customer,

This is your annual water quality report for the period of January 1 through December 31, 2014. Each year the Village issues this report to provide you information about the quality of our drinking water, the source of our water, how it is treated, and the regulated compounds it contains. These reports are issued in compliance with the Safe Drinking Water Act. For more detailed information about our water's quality, including test results for unregulated compounds, contact Marty Wittrock, Streets & Utilities Superintendent, at 847-362-3434, our website at [www.libertyville.com](http://www.libertyville.com) or Melissa Olenick at CLCJAWA at 847-295-7788, web page at [www.clcjawa.com](http://www.clcjawa.com). *Este informe contiene información muy importante sobre el agua que usted bebe. Tradúzcalo ó hable con alguien que lo entienda bien.*

### Our Treatment Process:

Our water is pumped from Lake Michigan and treated at CLCJAWA's Paul M. Neal Water Treatment Facility in the Village of Lake Bluff. The enhanced water purification process used by CLCJAWA is unique. First, the water is treated with ozone to kill organisms and break down contaminants. Ozone is produced on-site from air, bubbled into the water, and then converted back into oxygen. The water is then mixed with coagulant to remove sediment and other material from the water. Once clarified, the water is further refined as it passes through filters containing activated carbon and fine sand. Next, the water is treated with ultraviolet light to inactivate any remaining organisms. Finally, the purified water is treated with chlorine to protect it as it travels through the water main, fluoride for dental health, and a small amount of an often used food additive called phosphate. Phosphate protects the water from the metals found in our homes' plumbing systems.

CLCJAWA is a 10-time Excellence in Water Treatment award winning facility. CLCJAWA was the third facility in the nation to achieve this distinction presented by the Partnership for Safe Water. This voluntary water quality program, sponsored in part by the United States Environmental Protection Agency, holds its awardees to higher standards than required by current drinking water regulations.

CLCJAWA & Libertyville were in full compliance with all drinking water regulations this year.

### Where does our water come from?

Our Village purchases water from the Central Lake County Joint Action Water Agency. CLCJAWA is an inter-governmental cooperative, formed by the communities it serves: Grayslake, Gurnee, Lake Bluff, Libertyville, Mundelein, Round Lake, Round Lake Beach, Round Lake Heights, Round Lake Park, and Lake County representing the unincorporated areas of Knollwood and Roundout, Vernon Hills and Wildwood.

The Village maintains several backup emergency wells which are operated, flushed and sampled for bacteriological quality on a monthly basis to ensure reliability if the need ever arises. Please contact us if you would like to review our well sample results. The water system also includes a number of storage tanks, pumping stations, and valves which create four separate pressure zones in the village.

### Quality Water Assured:

Our tap water quality is consistently monitored by the Village, by the Illinois Environmental Protection Agency (IEPA), in the CLCJAWA Water Quality Lab, and by other independent labs.

This aggressive water quality assurance program is thorough: bacteriological tests are conducted six times more often than required, water clarity is monitored every 10 seconds, and our water is checked for hundreds of contaminants.

### How is the water delivered to my tap?

CLCJAWA utilizes 32 miles of pre-stressed concrete water main installed in 1991 to deliver water to your Village. Our system contains approximately 125 miles of water main in sizes ranging from 4" to 24" in diameter. The distribution system includes five water storage tanks with a total capacity of 4.1 million gallons. There are approximately 1,293 water main operating valves and 1,498 fire hydrants, all of which are operated and flushed annually by utility maintenance staff.

The Village is continually improving and maintaining the water distribution system. These improvements include fire hydrant and valve replacements, residential water meter upgrade/repair, and the replacement of aging water mains as budget allows. The improvements further assure the continued, uninterrupted conveyance of quality drinking water to your tap. Our water system provides an average of 2,181,000 gallons of water daily to our customers.

## 2014 Water Quality Contaminants Detected

Contaminant (unit of measure) Typical Source of Contaminant	Highest Level Detected	MCLG	MCL	Range of Detection	Violation	Date of Sample
<b>MICROBIAL CONTAMINANTS</b>						
<b>TOTAL COLIFORM BACTERIA (% Pos/Month)</b> Naturally present; human and animal fecal waste	<b>0</b>	<b>0</b>	5% per month	none	-	Monthly
<b>E. COLI (% Pos/Month)</b> Naturally present; human and animal fecal waste	<b>0</b>	<b>0</b>	0% per month	none	-	Monthly
TURBIDITY (NTU/Lowest Monthly % < 0.3 NTU) Lake Sediment; soil runoff	100% below 0.3 NTU	none	0.3 NTU	100%	-	Monthly
TURBIDITY (NTU/Highest Single Measurement) Lake Sediment; soil runoff	0.2	none	1 NTU	0.02 – 0.2	-	11/2014 Monthly
<b>INORGANIC CONTAMINANTS</b>						
BARIUM (ppm) Discharge of drilling wastes and metal refineries; natural erosion	0.019	2	2	Single Sample	-	07/09/14
<b>COPPER (ppm)</b> Corrosion of household plumbing systems; natural erosion	<b>0</b> (90 <sup>th</sup> percentile)	<b>1.3</b>	<b>AL = 1.3</b>	<b>0</b> sites exceeding AL	-	<b>07/09/14</b>
<b>LEAD (ppb)</b> Corrosion of household plumbing systems; natural erosion	<b>0</b> (90 <sup>th</sup> percentile)	<b>0</b>	<b>AL = 15</b>	<b>1</b> site exceeding AL	-	<b>8/29/14</b>
NITRATE as nitrogen (ppm) Runoff from fertilizer use; leaching from septic; natural erosion	0.38	10	10	Single Sample	-	5/12/14
<b>DISINFECTANT/DISINFECTION BY-PRODUCTS</b>						
<b>HAA5 Haloacetic Acids (ppb)</b> By-product of drinking water disinfection	<b>5.58</b>	<b>None</b>	<b>60</b>	<b>2.68 – 5.58</b>	-	<b>6/3/14</b> Quarterly
<b>TTHMs Total Trihalomethanes (ppb)</b> By-product of drinking water disinfection	<b>34.5</b>	<b>None</b>	<b>80</b>	<b>12.4 – 34.5</b>	-	<b>9/19/14</b> Quarterly
BROMATE (ppb) By-product of drinking water disinfection	1.8	0	10	0 – 1.8	-	Quarterly
<b>CHLORINE (ppm)</b> Drinking water disinfectant	<b>1.1</b>	<b>4</b>	<b>4</b>	<b>.2 - 1.1</b>	-	<b>4/30/14</b> Monthly
TOC (Total Organic Carbon)	The % of TOC removal was measured each month & the system met all removal requirements set by IEPA					
<b>STATE REGULATED CONTAMINANTS</b>						
FLUORIDE (ppm) Water additive which promotes strong teeth; natural erosion	0.8	4	4	0.6 – 0.9	-	7/9/14 Monthly
Manganese (ppb) Erosion of natural deposits	19	150	150	Single Sample	-	7/9/14
SODIUM (ppm) Erosion of naturally occurring deposits; water softener	8.5	none	none	Single Sample	-	7/9/14
<b>RADIOACTIVE CONTAMINANTS</b>						
COMBINED RADIUM 226/228 (pCi/L) Decay of natural and man-made deposits	0.98	0	5	Single Sample	-	3/10/14
GROSS ALPHA EMITTERS (pCi/L) Erosion of natural deposits	0.05	0	15	Single Sample	-	3/10/14
BETA EMITTERS (mrem/yr) Decay of natural and man-made deposits	2.0	0	50	Single Sample	-	3/10/14

### Regulated Contaminates Table:

The table above lists all of the regulated compounds detected in our water. Bolded compounds were sampled by the Village; all other compounds were sampled by CLCJAWA. The values shown in the Level Detected column are those used by the EPA to determine compliance with drinking water standards. Because each compound is regulated differently, this value may be a running average, a 90<sup>th</sup> percentile, or the maximum single value. The Sample Date column indicates the date when the sample was collected. When more than one sample is collected, this column shows the date of the maximum value. Explanation of MCLG and MCL may be found in the Definition of Terms

### Units of Measure:

**ppm:** Parts per million or milligrams per liter

**ppb:** Parts per billion or micrograms per liter

**pCi/L:** Picocuries per liter used to measure radioactivity

**NTU:** Nephelometric turbidity unit that measures clarity in drinking water.

**Dash symbol (-):** No violation

### Definition of Terms:

**Action Level (AL):** level that triggers special treatment or other required action by water plant.

**Maximum Contaminant Level (MCL):** the highest level of contaminant that is allowed in drinking water.

**Maximum Contaminant Level Goal (MCLG):** level of a contaminant below which there is no known or expected health risk.

**Treatment Technique (TT):** refers to a required process used to reduce contaminants in drinking water.

**UNREGULATED CONTAMINANTS**

Contaminant (unit of measure) Typical Source of Contaminant	Highest Level Detected	MCLG	MCL	Range of Detection	Violation	Date of Sample
CHLORATE (ppm) Drinking water disinfectant	0.060	none	none	53 - 60	-	6/22/13
HEXAVALENT CHROMIUM (ppm) Erosion of natural deposits	0.0002	none	none	0 - 0.0002	-	6/12/14 Quarterly
TOTAL CHROMIUM (ppm) Erosion of natural deposits	Less than 0.0009	none	none	Less than 0.0009	-	Quarterly
MOLYBDENUM (ppm) Erosion of natural deposits, industrial runoff	0.001	none	none	0 - 0.001	-	6/25/13
STRONTIUM (ppm) Erosion of natural deposits	0.13	none	none	0.11 - 0.13	-	6/25/13
SULFATE (ppm) Erosion of naturally occurring deposits	28	none	none	Single Sample	-	7/9/14
VANADIUM (ppm) Erosion of natural deposits	0.0003	none	none	0.0003 - 0.0003	-	6/25/13

**Lake Michigan Susceptibility to Potential Contaminants**

The Illinois EPA, using the Great Lakes Protocol, completed an assessment in April 2003. Lake Michigan is a surface water source and like all surface waters, is susceptible to potential contaminants. The very nature of surface water allows contaminants to migrate to the intake with no protection, only dilution. CLCJAWA's intake is ranked as moderately sensitive to potential contaminants. There are no potential contamination sources within the intake's critical assessment zone. However, the combination of land use, storm sewer outfalls, and the proximity of North Shore Water Reclamation District (NSWRD) pumping stations in the immediate area add to the susceptibility of CLCJAWA's intake. NSSD discharges their treated waste water to the Des Plaines River and not into Lake Michigan. Access the following website at <http://www.epa.state.il.us/cgi-bin/wp/swap-fact-sheets.pl> to view a summary of the source water assessment.

We are all participants in the water cycle. Our individual activities impact the rivers and lakes in our watershed and those into which our waste water plants discharge. Please properly use, store, and dispose of all medications and household chemicals. Visit the Solid Waste Agency of Lake County website for disposal options and information at [www.swalco.org](http://www.swalco.org).

Improper disposal of household chemicals may lead to increased contamination of our lakes, rivers and streams.



**Sodium:**

There is no state or federal MCL for sodium. Monitoring is required to provide information to consumers in case you are concerned about sodium intake for dietary reasons. If the sodium level in our water was greater than 20 ppm, and you were on a sodium-restricted diet, you would be advised to consult a physician.

**Turbidity:**

Turbidity is a measure of water clarity. Treatment facilities monitor turbidity because it is a good indicator of water quality and the effectiveness of their filtration and disinfection systems. At CLCJAWA, turbidity is checked every ten seconds in numerous locations by automatic monitoring equipment and twice a day, by hand, in the laboratory.

**Lead and Copper:**

Some homes with old lead service lines, lead plumbing, or copper plumbing with lead solder, may have lead and copper in their water. To minimize these levels, the Illinois EPA requires that CLCJAWA add phosphate to our water at a concentration of 0.3 ppm orthophosphate. This commonly used food ingredient coats the inside of your plumbing with a thin film. The film reduces lead and or copper levels that may have otherwise leached from your plumbing into your water.

Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. We cannot control the variety of materials used in plumbing components. You can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using the water for drinking or cooking.

Elevated levels of lead can cause serious health problems, especially in pregnant women and young children. If you are concerned about lead in your water, you may wish to have your water tested. For more information on lead in drinking water, testing methods and steps you can take to minimize exposure, contact the Safe Drinking Water Hotline at 1-800-426-4791 or go to <http://www.epa.gov/safewater/lead>.

A pill collection unit has been installed in the Libertyville Police Department, 200 East Cook Street. The following items are *acceptable* for disposal: Prescription medications, including controlled substances, all over-the-counter and pet medications, samples, vitamins, liquids and creams. Items *not acceptable* for deposit in the collection unit are: Needles/sharps, thermometers, IV bags, bloody waste and hydrogen peroxide. More information is available on the Solid Waste Agency of Lake County website for disposal options and information at [www.swalco.org](http://www.swalco.org).

### Precautions for immune compromised persons

Some people may be more vulnerable to drinking water contaminants than the general population. Immune compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice from their health care providers about drinking water. The USEPA and Center for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the USEPA Safe Drinking Water Hotline at 1-800-426-4791.



### Where do water contaminants come from?

Drinking water, including bottled water, may reasonably be expected to contain small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects may be obtained by calling the US Environmental Protection Agency's (USEPA) Safe Drinking Water Hotline at 1-800-426-4791.

Both tap and bottled water come from rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of land or through the ground, it dissolves naturally occurring materials and can pick up substances resulting from the presence of animal or human activity. Contaminants that may be present in untreated water include:

- Microbial contaminants such as viruses and bacteria can be naturally occurring or may come from sewage treatment plants, septic systems, and livestock operations.
- Inorganic contaminants such as salts and metals can be naturally occurring or result from urban storm water runoff, wastewater discharges, oil and gas production, mining, or farming.
- Pesticides and herbicides come from sources such as agricultural and residential storm water runoff.
- Organic chemical contaminants including synthetic and volatile organic compounds are by-products of industrial processes and petroleum production but can also come from gas stations, urban storm water runoff and septic systems.
- Radioactive contaminants can be naturally occurring or be the result of oil, gas, and mining activities.

### Drinking Water Regulatory Agencies:

To ensure tap water safety, the U.S. Environmental Protection Agency (USEPA) prescribes limits on the amount of certain contaminants in our drinking water. Water quality may be judged by comparing our water to USEPA benchmarks for water quality. One such benchmark is the Maximum Contaminant Level Goal (MCLG). The MCLG is the level of a contaminant in drinking water below which there is no known or expected risk to health. This goal allows for a margin of safety. Another benchmark is the Maximum Contaminant Level (MCL). An MCL is the highest level of a contaminant that is allowed in drinking water. An MCL is set as close to an MCLG as feasible using the best available treatment technology.

### Were CLCJAWA and Libertyville cited with any drinking water violations this year?

No. CLCJAWA and the Village of Libertyville were in full compliance with all drinking water regulations this year.

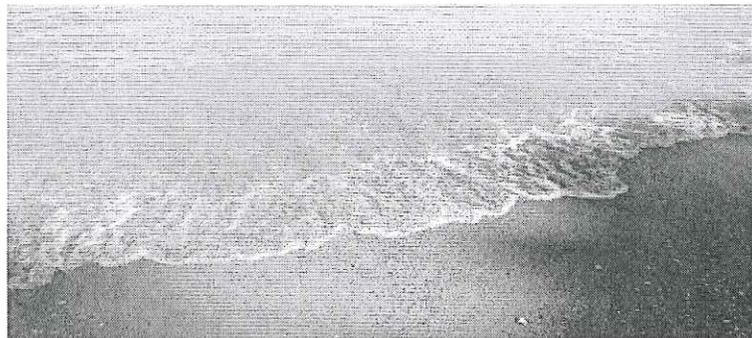
### Who needs backflow preventer?

**Homeowners** if you have an irrigation system or fire sprinkler system make sure you have backflow devices installed and inspected annually.

**Businesses** are required to have devices installed if they have irrigation systems, fire sprinkler systems, and/or the nature of their business poses a greater risk of contamination.

A backflow prevention device is used to protect water supplies from contamination or pollution. Our hope is that our water customers will join with us in safeguarding our water supply by having their backflow devices certified annually. Annual backflow testing is required by the U.S. EPA Clean Water Act and supported by state and local plumbing codes. The sole purpose of this legislation is to protect the public water supply and you the consumer.

We would appreciate your assistance in protecting our most valued resources: our water supply and the people use it. If you have any questions about Cross-Connection Devices, the ordinance or the requirements regarding call (847)362-3434.



#### Village of Libertyville

118 West Cook Avenue

Libertyville, IL 60048

[www.Libertyville.com](http://www.Libertyville.com)

[vol@libertyville.com](mailto:vol@libertyville.com)

#### Public Works Department

Phone: (847) 362-3434



Central Lake County

Joint Action Water Agency

200 Rockland Road Lake Bluff, IL 60044

847-295-7788 [www.ciciawa.com](http://www.ciciawa.com)

