

# 2017 WATER QUALITY CONSUMER CONFIDENCE REPORT



The Village of Cary is committed to providing the highest quality drinking water to its 18,271 residents and 500+ businesses. Our water is sampled frequently according to strict Environmental Protection Agency (EPA) regulations. This report is intended to provide you with important information about your drinking water and the efforts made by the CARY water system to provide safe drinking water. The source of drinking water used by CARY is groundwater. Please contact Mike Walsh, Assistant Director of Public Works, at (847) 639-0003 if you have additional questions. Village Board meetings are held at 6:00 pm on the first and third Tuesdays of each month, and offer opportunities for public participation in decisions that may affect the quality of the water.

Este informe contiene información muy importante sobre el agua que usted bebe. Tradúzcalo ó hable con alguien que lo entienda bien.

## SOURCE OF DRINKING WATER

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and groundwater wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

### Contaminants that may be present in source water include:

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

Drinking water, including bottled water, may reasonably be expected to contain at least 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 can be obtained by calling the EPA's Safe Drinking Water Hotline at (800) 426-4791.

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

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Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-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 about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. 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. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.

## SOURCE WATER ASSESSMENT SUMMARY

The Village of Cary (Facility Number 1110100) utilizes nine active community water supply wells. Wells #3, #4, #6, #8, #9, #10, #11, #12, and #13 (Illinois EPA #20138, #20139, #20141, #20142, #00306, #20144, #00705, #00952, #01428 respectively) produce approximately 1.5 million gallons per day delivered to 6,100 service connections and serve an estimated population of 18,713 individuals in Cary. To determine Cary's susceptibility to groundwater contamination, the Illinois EPA's Well Site Survey, published in 1989, and Baxter and Woodman's Groundwater Protection Needs Assessment, first published in 1992 and revised in 1999, were reviewed.

During the surveys of Cary's source water protection area, potential sources, routes, or possible problem sites within the 200 or 400 foot minimum setback zones, 1,000 foot maximum setback zones, and recharge areas were recorded. No sources are located within any of the minimum setback zones of Cary's wells. There are four sources located in the proposed maximum setback zone around wells #8 and #9. There are also four sources located in the proposed maximum setback zone around well #6. Within the recharge areas, two sources are located in the recharge area for wells #10, #11, and #12. Numerous sources were located in the recharge area for wells #3, #8, and #9. The Illinois EPA considers the source water of this facility to be susceptible to contamination. This determination is based on a number of criteria including: monitoring conducted at the wells, monitoring conducted at the entry point to the distribution system, the available hydrogeologic data on the wells, and the land-use activities in the recharge area of the wells.

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The Illinois Environmental Protection Act established minimum protection zones of either 200 or 400 feet for Cary's active community water supply wells. These minimum protection zones are regulated by the Illinois EPA. In addition, as part of Baxter and Woodman's Groundwater Protection Needs Assessment, recharge areas for wells #3, #8, #9, #10, #11, and #12 have been delineated. A recharge area is the geographic area surrounding a well or well field providing potable water to a community water supply as modeled using computer software to determine a five-year time of travel.

To further minimize the risk to the Village's water supply, the Illinois EPA recommends that the following activities be assessed. First, the supply may wish to petition the Village of Cary to enact a maximum setback zone ordinance. These ordinances are authorized by the Illinois Environmental Protection Act and allow county and municipal officials the opportunity to provide additional protection up to 1,000 feet from their wells. Second, the Illinois EPA recommends that Cary adopt a wellhead protection plan to reduce the risk of contamination to the water supply. Third, the Village of Cary should establish a regulated recharge area and develop and implement a recharge area management plan. However, this would require a cooperative effort with other local political bodies because the recharge area around wells #10, #11, and #12 extends beyond the Village of Cary corporate limits and into McHenry County, Algonquin, and Lake in the Hills. In April of 2011, the Village completed one of the EPA's recommendations by properly filling and sealing Well #5 which had been inactive for years. Inactive wells that are not properly abandoned (filled and sealed) can act as direct conduits into the aquifer which may allow surficial contaminants to enter the water supply and are considered "potential routes" of contamination under the Environmental Protection Act.

In addition to source water contamination prevention, Cary should also consider the following efforts to protect the finished water supply. First, a cross connection control ordinance should be adopted and a program designed to implement the ordinance. Cross connections to either the water treatment plant (for example, at bulk water loading stations) or in the distribution system may negate all source water protection initiatives provided by the supply. Second, contingency planning documents should be developed to ensure the water department and emergency response staff are aware of and adequately trained to implement emergency procedures. Contingency planning documents are a primary means to ensure that, through emergency preparedness, a water supply will minimize their risk of being without safe and adequate water.

## **2017 REGULATED CONTAMINANTS DETECTED**

***THE VILLAGE OF CARY HAD NO WATER QUALITY STANDARD VIOLATIONS DURING THE 2017 CALENDAR YEAR.***

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## DEFINITIONS

**Action Level (AL)** - The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow. If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. We are responsible for providing high quality drinking water, but we cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in drinking water, testing methods, and steps you can take to minimize exposure, information is available from the Safe Drinking Water Hotline or <http://www.epa.gov/safewater/lead>.

**Action Level Goal (ALG)** - The level of a contaminant in drinking water below which there is no known or expected risk to health. ALG's allow for a margin of safety.

## WATER QUALITY TEST RESULTS

**Definitions:** The following tables contain scientific terms and measures, some of which may require explanation.

**Maximum Contaminant Level (MCL):** The highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the Maximum Contaminant Level Goal as feasible using the best available treatment technology.

**Maximum Contaminant Level Goal (MCLG):** The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's allow for a margin of safety.

**ppm:** milligrams per liter or parts per million—or one ounce in 7,350 gallons of water.

**ppb:** micrograms per liter or parts per billion—or one ounce in 7,350,000 gallons of water.

**N/A:** not applicable.

**Avg:** Regulatory compliance with some MCLs are based on running annual average of monthly samples.

**Maximum Residual Disinfectant Level (MRDL):** The highest level of disinfectant allowed in drinking water.

**Maximum Residual Disinfectant Level Goal (MRDLG):** The level of disinfectant in drinking water below which there is no known or expected risk to health. MRDLG's allow for a margin of safety.

**pCi/L:** Picocuries per liter (a measure of radioactivity).

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## LEAD - Date Sampled: August 2017

| LEAD MCLG | LEAD ACTION LEVEL (AL) | LEAD 90 <sup>TH</sup> PERCENTILE | # SITES OVER LEAD AL |
|-----------|------------------------|----------------------------------|----------------------|
| 0         | 15 ppb                 | 4.8 ppb                          | 0                    |

LIKELY SOURCE OF CONTAMINATION: Corrosion of household plumbing systems; erosion of natural deposits.

## COPPER - Date Sampled: August 2017

| COPPER MCLG | COPPER ACTION LEVEL (AL) | COPPER 90 <sup>TH</sup> PERCENTILE | # SITES OVER COPPER AL |
|-------------|--------------------------|------------------------------------|------------------------|
| 1.3 ppm     | 1.3 ppm                  | 0.48 ppm                           | 1                      |

LIKELY SOURCE OF CONTAMINATION: Corrosion of household plumbing systems; erosion of natural deposits.

## DISINFECTANTS & DISINFECTION BY-PRODUCTS

| NAME                         | COLLECTION DATE | HIGHEST LEVEL DETECTED | RANGE OF LEVELS DETECTED | MCLG      | MCL      | UNITS | VIOLATION | LIKELY SOURCE OF CONTAMINANT              |
|------------------------------|-----------------|------------------------|--------------------------|-----------|----------|-------|-----------|---|
| Chlorine                     | 12/31/2017      | 0.8                    | 0.7-1                    | MRDLG = 4 | MRDL = 4 | ppm   | NO        | Water additive used to control microbes   |
| Haloacetic Acids (HAA5)      | 2017            | 4                      | 3.52-4.3                 | N/A       | 60       | ppb   | NO        | By-product of drinking water disinfection |
| Total Trihalomethanes (TTHM) | 2017            | 26                     | 16.19-25.67              | N/A       | 80       | ppb   | NO        | By-product of drinking water disinfection |

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## INORGANIC CONTAMINANTS

| NAME              | COLLECTION DATE      | HIGHEST LEVEL DETECTED | RANGE OF LEVELS DETECTED | MCLG       | MCL        | UNITS      | VIOLATION  | LIKELY SOURCE OF CONTAMINANT   |
|-------------------|----------------------|------------------------|--------------------------|------------|------------|------------|------------|--|
| <i>Barium</i>     | <i>November 2015</i> | <i>1.4</i>             | <i>0.11 - 1.4</i>        | <i>2</i>   | <i>2</i>   | <i>ppm</i> | <i>NO</i>  | <i>Discharge of drilling wastes discharge from metal refineries; erosion of natural deposits</i>     |
| <i>Fluoride</i>   | <i>November 2015</i> | <i>1.14</i>            | <i>1.05 - 1.14</i>       | <i>4</i>   | <i>4</i>   | <i>ppm</i> | <i>NO</i>  | <i>Erosion of natural deposits; water additive which promotes strong teeth; fertilizer discharge</i> |
| <i>Iron*</i>      | <i>November 2015</i> | <i>0.089</i>           | <i>0.021-0.089</i>       | <i>N/A</i> | <i>1</i>   | <i>ppm</i> | <i>NO</i>  | <i>Erosion of natural deposits</i>   |
| <i>Manganese*</i> | <i>November 2015</i> | <i>3.5</i>             | <i>2.7 - 3.5</i>         | <i>150</i> | <i>150</i> | <i>ppb</i> | <i>NO</i>  | <i>Erosion of natural deposits</i>   |
| <i>Sodium**</i>   | <i>November 2015</i> | <i>100</i>             | <i>36 - 100</i>          | <i>N/A</i> | <i>N/A</i> | <i>ppm</i> | <i>N/A</i> | <i>Erosion of naturally occurring deposits; used in water softener regeneration</i>                  |
| <i>Zinc*</i>      | <i>November 2015</i> | <i>0.01</i>            | <i>0 - 0.01</i>          | <i>5</i>   | <i>5</i>   | <i>ppm</i> | <i>NO</i>  | <i>Naturally occurring; discharge from metal refineries</i>  |

\*Iron, Manganese and Zinc are not currently regulated by the USEPA. However, the State of Illinois has set MCLs for these contaminants for supplies serving a population of 1,000 or more.

\*\*There is not a state or federal MCL for sodium. Monitoring is required to provide information to consumers and health officials that are concerned about sodium intake due to dietary precautions. If you are on a sodium-restricted diet, you should consult a physician about this level of sodium in the water.

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## RADIOACTIVE CONTAMINANTS

| RADIOACTIVE CONTAMINANTS                | COLLECTION DATE | HIGHEST LEVEL DETECTED | RANGE OF LEVELS DETECTED | MCLG | MCL | UNITS | VIOLATION | LIKELY SOURCE OF CONTAMINANT |
|---|-----------------|------------------------|--------------------------|------|-----|-------|-----------|------------------------------|
| Combined Radium 226/228                 | 2017            | 4                      | 0 – 4.11                 | 0    | 5   | pCi/L | NO        | Erosion of natural deposits  |
| Gross Alpha Excluding Radon and Uranium | 2017            | 10                     | 0 – 9.86                 | 0    | 15  | pCi/L | NO        | Erosion of natural deposits  |
| Uranium                                 | 7/10/2012       | 0.81503                | 0.81503 - 0.81503        | 0    | 30  | ppb   | NO        | Erosion of natural deposits  |

Note: The state requires monitoring of certain contaminants less than once per year because the concentrations of these contaminants do not change frequently. Therefore, some of this data may be more than one year old.

## COLIFORM BACTERIA

| MAXIMUM CONTAMINANT GOAL | TOTAL COLIFORM MAXIMUM CONTAMINANT LEVEL | HIGHEST NO. OF POSITIVE | FECAL COLIFORM OR E. COLI MAXIMUM CONTAMINANT LEVEL | TOTAL NO. OF POSITIVE E. COLI or FECAL COLIFORM SAMPLES | VIOLATION | LIKELY SOURCE OF CONTAMINATION    |
|--------------------------|--|-------------------------|---|---|-----------|-----------------------------------|
| 0                        | 1 positive monthly sample.               | 2*                      |   | 0   | N         | Naturally present in environment. |

\*The two positive coliform samples noted above were collected from the same residence. Investigation of the events revealed an internal plumbing problem that did not originate in the water system. Follow up sampling was performed as required and a complete second round of sampling was performed Village wide which eliminated any violations.

Note: The Illinois Environmental Protection Agency has very specific requirements for the information that must be included in this report. Raw well water sample results are not required to be reported but these sample results are available upon request. Please contact Assistant Director of Public Works Mike Walsh (847-639-0003 extension 8103) if you wish to learn more about the Village's water sampling program.