

# Town & Country

Hamilton County Soil & Water Conservation District

Summer 2017

## Soil is the Immune System of the Garden

*Andrew Fritz, Urban Agriculture Conservationist*

When we experience stress, especially chronic stress, our immune system weakens and our body becomes increasingly susceptible to disease and infection. Plants, including the vegetables in our gardens, are more vulnerable to experiencing pest or disease issues when under chronic stress, too. The presence of pests and disease in the garden, then, is a *symptom* of stress where the soil, environment, and/or climate does not fully support the needs of the plant(s) affected. Therefore, assuming adequate moisture and climatic conditions, the solution for many pest and disease issues experienced in the garden resides mostly in the soil. To understand this concept further we can continue to look at our own body as an analogy.

Our gut hosts billions of microbes and bacteria that act as a primary defense against disease. Without a healthy gut and intestinal microbiome, we are at increased risk of disease. Likewise, the soil, and the microbiome it contains, *is* the plant's immune system. If we were to put two of the same plants next to each other - one with appropriate soil, the other with inadequate soil - the latter will be more likely to experience pest and disease issues.

In short, a healthier soil is synonymous with a healthier plant. To *eradicate* and *kill* the diseases and pests that *attack* our vegetables without fully appreciating the reasons why avoids a potential opportunity to nurture the soil for long-term health.

To nurture the soil in ways that benefit the soil microbiome and increase capacity for the soil to act as a healthy immune system we need to shift our thinking from one of *attacking* disease to one of *nurturing* the soil as a living organism. Paying attention to the symptom of pests and disease can determine a more holistic path to healthcare in the garden. Below are some ways to nurture your garden soil microbiome:

- **Crop Rotation** - Rotate your crops from season to season and from year to year to prevent unhealthy pathologies from developing. This is the same concept of varying our diet.
- **Till Minimally** - Each time a garden is tilled, organic matter, microbes, and bacteria are exposed to the air, which can expedite their termination and increase the rate at which the organic matter decomposes. If you choose to till more often, implement the practices listed here with increased frequency or intensity.
- **Fallow Farming** - Consider placing parts of your garden into fallow with cover crops for extended periods of time (1 year to 5 years). The added organic matter and nurturing elements of cover crops can reduce soil pathogens and restore soil health.
- **Compost** - Compost and additional organic matter is essential for soil health by adding much needed nutrients and a medium for bacteria and microbes to thrive.
- **Cover Cropping** - Planting cover crops between your vegetables and throughout the winter not only protects soil from erosion but adds organic matter, nutrients, and benefits the soil microbiome.
- **Add Microbes and Bacteria** - By creating a compost tea and applying regularly on your garden you can continually supplement the soil with microbes and bacteria.



*Garden beds with crimson clover (top) and rye (bottom) cover crops.*

To learn more, contact Andrew Fritz, Urban Agriculture Conservationist, by email ([andrew.fritz@hamiltoncounty.in.gov](mailto:andrew.fritz@hamiltoncounty.in.gov)) or by visiting [www.hamiltonswcd.org/soil-immune-system.html](http://www.hamiltonswcd.org/soil-immune-system.html)

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*Urban Agriculture Associates*

**Town & Country**

Published quarterly and distributed to landowners, farm operators, teachers, local agencies, public officials, conservation organizations and other interested individuals.

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Noblesville, IN 46060  
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soil.water@hamiltoncounty.in.gov

**District Welcomes New Office Coordinator**

Sue Fisher started working at Hamilton County SWCD on Monday, June 19<sup>th</sup> as the new office coordinator. Sue has extensive administrative experience, and will be the friendly face you see the next time you stop in to our offices! Sue is a long-time resident of downtown Noblesville, and she is excited for the opportunity to support her county and community in this capacity.



welcome

**New Funds for Private Property Owners for Tree Planting**

The Hamilton County Soil and Water Conservation District announces a unique funding opportunity for producers considering conservation practices that limit the run-off of nutrients and protect water quality for their operations. This county is one of 230 counties in Ohio, Indiana, and Kentucky chosen to participate in Ohio River Basin Water Quality Trading Project.

The Electric Power Research Institute (EPRI), American Farmland Trust, and a team of collaborators have been working since 2012 with the support of the States of Ohio, Indiana, and Kentucky to install best management practices that generate “water quality credits” to achieve broader water quality improvements. Landowners who have already received funding have enjoyed the simple contracts and straightforward requirements.

Under this funding opportunity, EPRI is releasing \$600,000 of private funds (not NRCS cost-share dollars) across Ohio, Indiana, and Kentucky to plant trees and complimentary agricultural BMPs. Funding applications will be ranked first by the cost per pound of nitrogen and phosphorus runoff avoided, and secondarily by the related positive benefits to the environment and community.

**Key Elements of Funding Opportunity:**

- Project applications will be reviewed on a rolling basis until all funds are expended through June 15<sup>th</sup>, 2018.
- Projects must be fully installed only on private land (not federal or state property) and no later than July 15, 2018.
- Funding covers up to 80% of total project costs. (i.e. 80% cost share cap).
- At least 60% of requested funds must be applied towards tree plant, with no more than 40% applied towards complimentary BMPs.
- Contract length for forest planting is 20 years, complimentary structural projects is 10 years, and complimentary seasonal projects is 5 years.
- Payments will be made after project installation and on-site verification, followed by annual maintenance payments.
- The project must reduce its runoff of total nitrogen and/or total phosphorous below current conditions (what is currently being achieved with existing land uses and management practices) AND otherwise comply with applicable legal requirements.
- If accepted, producers will sign agreements with their local Soil and Water Conservation District or State agency for the implementation of the conservation practices, with payments made by the same agency.

Go to <http://wqt.epri.com> for the full notice and to watch videos from landowners who have previously received funding.

**All Questions to:**

Brian Brandt, Director, American Farmland Trust  
(614) 430-8130 (office), bbrandt@farmland.org

# 2017 Native Tree Sale

Mark quantity desired next to each tree/shrub and total order on back page.

Tree cost: cash/check discount: \$26.00 plus tax = \$27.82 /tree

Online/credit card cost: \$27.25 plus tax = \$29.16 /tree

Most trees/shrubs are 3-5 feet tall at delivery unless noted.

All trees/shrubs will be in 3 gallon containers.

No refunds will be given after tree pick up.

Payment due with order: **Thursday, September 28th, 2017**

Payment methods: cash or check

**Online ordering and credit card payment available at: [www.hamiltonswcd.org](http://www.hamiltonswcd.org)**

Order pick up: **Friday, October 6th from 12pm-6pm**  
at Hamilton County 4-H Fair Grounds Llama Barn

Please contact our office with any questions: 1717 Pleasant St. Suite 100, Noblesville, IN 46060

Phone: (317) 773-2181 Email: [soil.water@hamiltoncounty.in.gov](mailto:soil.water@hamiltoncounty.in.gov) Website: [www.hamiltonswcd.org](http://www.hamiltonswcd.org)

## Native shrubs and small trees

Scientific name	Common name	Mature height	Mature Spread	Bloom time	Sun	Soil moisture	Notes	Quantity
<i>Amelanchier laevis</i>	Allegheny Serviceberry	15-40	15-40	April	Full sun-part shade	Medium	Edible berries attract birds. Attractive understory tree for lawns, street tree, or screening.	
<i>Aronia arbutifolia</i> *	Red Chokeberry	5-10	3-5	April	Full sun-part shade	Medium-	Great for borders. Prune unwanted suckers to limit spread. Loved by birds. 2-3' at delivery.	
<i>Aronia</i>	Black Chokeberry	3-6	3-6	May	Full sun-part shade	Medium		
<i>Asimina triloba</i>	Paw Paw "Indiana Banana"	15-30	15-30	April-May	Full sun-shade	Medium-moist	Great understory tree. Tolerates shade and competition. Large, edible fruit ripe in Oct. Need multiple trees for pollination/fruit production and/or hand pollination. 1-2' at delivery.	
<i>Cercis canadensis</i>	Redbud	20-30	25-35	April	Full sun-part shade	Medium	Showy flowers. Avoid poorly drained soils. Tolerates deer, clay soil, and black walnut.	
<i>Cephalanthus occidentalis</i>	Buttonbush	5-12	4-8	June	Full sun-part shade	Medium-wet	Grows well in wet soils. Showy, unique flower heads. 2-3' at delivery.	
<i>Cornus sericea</i>	Red Osier Dogwood	6-9	7-10	May-June	Full sun-part shade	Medium-wet	Tolerates clay soil, wet soil, and deer. Can be used for erosion control or screening.	
<i>Cornus florida</i>	Flowering Dogwood	15-30	15-30	April-May	Full sun-part shade	Medium	Tolerate clay soils. Beautiful flowering ornamental tree.	
<i>Hamamelis virginiana</i>	Witch hazel	15-20	15-20	Oct-Dec	Full sun - Part shade	Medium	Tolerates heavy clay soils. Promptly remove suckers to prevent colonial spread. Little pruning is required. 2-3' at delivery.	
<i>Ilex verticillata</i> *	Winterberry	3-12	3-12	June-July	Full sun-part shade	Medium-wet	Male and female plants required for berry production. Needs acidic soils. Year round interest. 2-3' at delivery.	
<i>Lindera benzoin</i>	Spicebush	6-12	6-12	April	Sun-shade	Dry-wet	Fast growing. Good in moist, shady spaces. Larval host to Swallowtail butterfly.	
<i>Symphoricarpos orbiculatus</i>	Coralberry	2-5	4-8	April-May	Full sun-part shade	Medium-dry	Coral berries provide winter interest. 2-3' at delivery.	
<i>Viburnum dentatum</i>	Arrowwood Viburnum	6-10	6-8	June	Full sun-part shade	Medium	Good for borders, hedge, or screen.	

\* new to tree sale in 2017

Remember to consider above and below ground utilities and mature growth size when choosing trees for your property.  
Need more info on trees, pests, & growing characteristics? Visit our website for helpful info and links.

## Medium and large trees

Scientific name	Common	Tree Size	Sun	Soil Moisture	Notes	Quantity
<i>Acer rubrum</i>	Red Maple	L - rounded to oval crown	Full sun-part shade	Medium-Wet	Tolerates wet soil and air pollution. Great specimen tree but avoid planting too close to sidewalks/driveway.	
<i>Betula nigra</i>	River Birch	M	Full sun-part shade	Medium-Wet	Beautiful exfoliating creamy white bark. Tolerates temporary flooding and clay soils. *Roots infiltrate subsurface drainage. Keep at least 100 feet from	
<i>Carya ovata</i>	Shagbark Hickory	L - tall ornamental shade tree	Full sun-part shade	Medium	Requires large area to grow. Great shade tree with interesting bark in maturity. Tolerates clay soils. 1-2' at delivery.	
<i>Catalpa speciosa*</i>	Northern Catalpa	M/L	Full sun-part shade	Medium-Wet	Tolerant of wet and dry soils and seasonal flooding. Dramatic flowers, long slender seedpods. Catalpa sphinx moth caterpillars common.	
<i>Celtis occidentalis</i>	Hackberry	M - upright arching crown	Full sun-part shade	Medium-Wet	Tolerates wide range of soil conditions, drought, & poor soils. Good shade or street tree- avoid near sidewalk/patio due to seed mess.	
<i>Diospyros virginiana</i>	Persimmon	M	Full sun-part shade	Dry-Medium	Male & female trees necessary for fruiting. Prune suckers for central leader. 2-3' at delivery.	
<i>Juniper</i>	Eastern Red	M - Evergreen	Full sun	Dry-Medium	Good for screen or windbreak. Intolerant of shade. 24-36" at delivery.	
<i>Liriodendron tulipifera</i>	Tulip Poplar	L - stately, pyramidal crown	Full sun	Medium	State tree of Indiana. Showy flowers. Prefers moist, well drained sites. Tolerates part shade and clay soil.	
<i>Nyssa sylvatica*</i>	Black Gum	M	Full sun-part shade	Medium-Wet	Tolerates standing water and some drought. Slow growing, flowers great nectar source for bees. Great ornamental for lawns or street tree.	
<i>Pinus strobus</i>	White Pine	L- evergreen	Full sun-part shade	Medium	Low maintenance, rapid-growing evergreen tree. Great specimen tree— allow for future growth. Susceptible to many pests. 2-3' at delivery.	
<i>Platanus occidentalis</i>	Sycamore	L	Full sun	Medium-Wet	Largest diameter deciduous tree in NA. Prefers rich organic soils, tolerant of urban pollution. Avoid near drainage pipes.	
<i>Prunus serotina</i>	Black Cherry	M/ L	Full sun-part	Medium	Tolerates wide range of soils and urban pollution. Flowering shade tree.	
<i>Quercus alba</i>	White Oak	M - wide spreading rounded crown	Full sun	Dry- Medium	Best grown in rich, moist, acidic, well-drained loams in full sun. Adapts to a wide variety of soil conditions with good drought tolerance.	
<i>Quercus bicolor</i>	Swamp White Oak	M - rounded crown, short	Full sun	Medium-Wet	Good street tree, well adapted to urban poorly drained areas. Remove lower branches for pedestrian clearance. Great for wet/low spots.	
<i>Quercus coccinea*</i>	Scarlet Oak	M/L	Full sun	Dry-Medium	Low maintenance, shade/street tree with large crown. Tolerates drought and dry soil. Not subject to chlorosis as much as pin oak. Great fall color.	
<i>Quercus imbricaria</i>	Shingle Oak	M	Full sun	Medium-Wet	Easily grown landscape, ornamental oak. Good shade or street tree. Tolerant of drought and black walnut.	
<i>Quercus macrocarpa</i>	Bur Oak	L	Full sun	Dry-Medium	Easily grown, large shade tree. Clay tolerant. No serious pest problems. Up to 35 years for first acorn crop.	
<i>Quercus muehlenbergii*</i>	Chinquapin Oak	M	Full sun	Dry-Medium	Easily grown in average soils in full sun. Up to 30 years for first acorn crop. Low maintenance, long lived tree.	
<i>Quercus rubra</i>	Red Oak	M/L - broad, rounded crown	Full sun	Dry-Medium	Prefers well drained soils, needs ample space. Prefers acidic soils but tolerates pollution, compacted soils, drought & salt spray though not flooding.	
<i>Quercus shumardii</i>	Shumard Oak	M - broad open crown with age	Full sun	Dry-Medium	Tolerates wide range of soils, good street tree. Prune early for central leader & strong structure. Grows moderately fast.	
<i>Taxodium distichum</i>	Bald Cypress	L-Deciduous conifer	Full sun	Medium-Wet	Tolerates wide range of soils. Loses needles in fall.	
<i>Thuja occidentalis*</i>	Arborvitae	M-Evergreen	Full sun-part shade	Medium	Intolerant of dry conditions. Winter interest. 18-24" at delivery.	

	Quantity	Total
Total # trees ordered		@\$26.00 =
	+ 7% sales tax (\$1.82/tree)	
	<b>Total</b>	

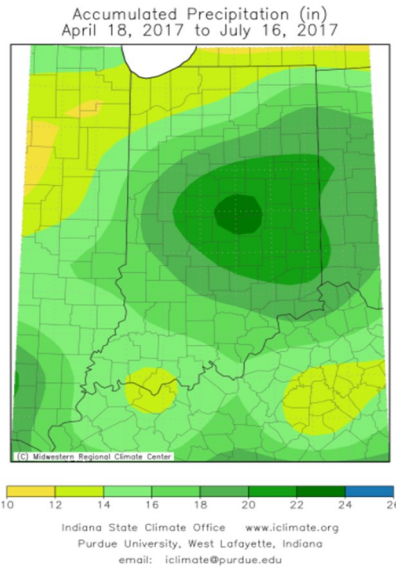
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## Wet Spring and Summer Brings Drainage Challenges

Ginger Davis, Conservation Administrator

Talk to anyone and they recognize that this has been wet. In all actuality it has been the 5<sup>th</sup> wettest spring on record for central Indiana according to the Nation Weather Service. Since the beginning of the year we have received just over 72.6 inches for the central part of the state. With the wet weather, we have been receiving many drainage calls. Most people are interested in getting the standing water away from their homes and property. The general rule of thumb is that if the water is standing for less than 24-48 hours and not entering a structure, then there is no need for concern. It may be hard to mow or get out in the field with farm equipment for a few days, but just have patience because it will dry out eventually. Now this spring was tough because we have had several bouts of flooding. Flooding is rough because it can cause serious risk to life and property. So be safe in standing water, don't drive through and try to move to someplace uphill if you see water rising fast. The best way to reduce the risks for flooding and reduce the standing water on your property is to store water and release slowly after the rains subside. Standing water is typical in this area of the state because of our tight tills and heavy clay soils. When water stands above ground for longer periods of time, then there is concern over mosquito habitat and survival of plants. But water can be stored underground with minimal problems. Water can also be stored in rain barrels, rain gardens and on a larger scale in ponds and dry detention basins. These water storage systems are designed to hold and store water for use later or to release slowly after the major amount of water has been absorbed into the ground. The more we can encourage water to soak into the ground, the more water we have as groundwater that can be used for drinking water or for watering plants late into the summer when it gets dry. The Hamilton County Soil and Water Conservation District is encouraging the use of these types of systems to conserve our water and encourage reduced flooding. Let us know if you are interested in seeing how these systems can work on your property.



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## Urban Conservation Spotlight

Claire Lane, Urban Conservationist



### Conservation Bus Tour Planned

Churches and homeowners associations (HOA's) in Hamilton County are typically responsible for maintenance of large properties or common areas. These turf grass areas around ponds and common areas can be expensive and resource intensive to maintain relative to their use. Prairie/meadow establishment and native plantings around pond edges are great ways to reduce maintenance costs, improve water quality and reduce runoff, enhance the aesthetic of the property, and provide a valuable and educational recreation space for homeowners and congregations.

The SWCD will host a bus tour and workshop to help HOA's and churches better understand the opportunities on their properties, the associated costs and cost savings, as well as the installation and maintenance required for such projects. This event, held August 26th, will allow interested individuals, organization leadership, and other stakeholders to not just learn about these projects but actually step out and view 4 different sites across Hamilton County (both HOA and church properties) in various levels of establishment as well as hear from the organizations who have implemented these projects.

This bus tour will be held Saturday, August 26th from 9am– 2:30 pm (approximate end time). Pre-registration is required and may be completed online at [www.hamiltonswcd.org](http://www.hamiltonswcd.org). The tour cost is being finalized and will include bus transportation and a boxed lunch. Visit [www.hamiltonswcd.org](http://www.hamiltonswcd.org) for more info and to register!



This event is brought to you in coordination with Williams Creek Management.

### Legacy Grant

In June, the District received a \$15,000 grant from Legacy Fund, the community foundation serving Hamilton County and an affiliate of the Central Indiana Community Foundation. This grant will support the District's Urban Agriculture program by sustaining grant funded staff. We are very thankful to receive this support and look forward to continuing the progress toward building a community around urban agriculture in Hamilton County and supporting those who experience food insecurity with fresh, local produce.



### Rain on Main Returns This August in Carmel

Rain on Main returns to Carmel for the third year this August. This painted rain barrel art competition and silent auction educates the public on the value of water conservation and raises money for educational water quality signage in Carmel parks. Rain on Main kicks off with the display of twenty painted rain barrels along Main Street in the Carmel Arts and Design District on August 11th. The barrels are on display throughout the week (until August 18th). During this week, voting in the People's Choice competition takes place via "like" voting on the Rain on Main Facebook page.



Additionally, Carmel residents are eligible to apply for a \$50-\$75 cost-share rebate incentive toward their stormwater utility bill for installing rain barrels. More info is available at [www.RainOnMain.com](http://www.RainOnMain.com).

Learn more and see the barrels at [www.RainonMain.com](http://www.RainonMain.com) or check out the Rain on Main Facebook page.



### Waterwood of Carmel Nature Park Recognized by the City of Carmel

Over the past year, HOA leadership and residents have been working to restore their common areas to be more natural and environmentally friendly. Tree plantings, prairie establishment, invasive removal, and pond improvements are all part of the comprehensive plan developed for the community. The District's Heartland Backyard Conservation Cost Share Program was utilized to partially fund improvements to one of the HOA ponds. For their efforts, the Carmel Urban Forestry Committee is recognizing the Waterwood Nature Preserve with a plaque and recognition at the August Carmel Neighborhood Association Network meeting. Congrats Waterwood!

## Urban Agriculture Spotlight

Andy Fritz, Urban Agriculture Conservationist

Cara Culp, Urban Agriculture Outreach Specialist

### Container garden distribution:

Borrowing from an idea used by a local community garden, Urban Ag staff recently completed the Container Garden Project. Our goals were to provide a way for food pantry guests to easily grow and harvest fresh vegetables for free and to encourage them to continue to grow their own produce in the years to come. Thanks to the help of CLC Organics, Stokes, and a partner that wished to remain anonymous, we were able to provide 165 cherry tomato plants to 11 different food pantries which then distributed them to their guests. The feedback we have received from the food pantry managers for this project has been excellent—the families have been excited to grow and eat their own tomatoes.

### Adopt a Food Pantry:

Urban Ag staff recently launched the Adopt a Food Pantry program. Businesses and service clubs are invited to have at least one day this summer when employees/club members bring in fresh produce (either homegrown or bought from a farmers market/grocery store). The business/service club will be paired with a food pantry and the donations will be given to that pantry. If your business or service club would like to have one or more “Adopt a Food Pantry” donations days this summer, call us at 317-773-2181 for assistance and more information. Special thanks to the Sheridan Rotary Club and to BLASTmedia in Fishers for being the first two organizations to join the Adopt a Food Pantry program!



Andrew Fritz, Urban Agriculture Conservationist, at a county food pantry with tomato plants ready for pickup.



Campers with the Noblesville Parks Department and their tomato plants.

### Kids Workshops:

We enjoyed teaching garden workshops to over 100 kids this summer! Staff partnered with the Noblesville Parks Department and the Noblesville First Presbyterian Church’s Summer Lunch Program. Each child filled a pot with soil, planted a tomato start, and inserted a stake to give the plant stability as it grows. The kids took their container garden home and will be growing tomatoes all summer long. It was fun to work with the kids and hear the great questions that they asked.

### Meijer spice donation:

Earlier this year, staff had recipe cards printed that included recipes as well as selection and storage tips for eight different vegetables. These cards were given to food pantries which passed them out to their clients. Five of the eight recipes included garlic powder or Italian seasoning to provide a little extra flavor that would hopefully encourage people to eat more produce. It is rare for spices to be donated to food pantries, so we are very grateful to Meijer #230 in Noblesville for donating these spices for food pantry families to use with the vegetable recipes. Thank you, Meijer, for your generosity!



Pictured are Mary Lou Finchum with the Hamilton County Harvest Food Bank and Craig Hunter, Store Director of Meijer in Noblesville.

### Garden starter kits:

Staff created eleven Garden Starter Kits earlier this year. Each kit consisted of a canvas gardening bag, 3 handheld garden tools, gardening gloves, and seeds. The program goal has been to provide a kit to food pantry guests or low income Hamilton County residents who want to start gardening but who do not own gardening supplies of their own and don’t have the means to buy them. Information about these kits were included in a technical assistance flier we sent to food pantries to distribute to their guests. We still have a few kits left, so contact us if you know someone who might be interested and would qualify for this program. Special thanks to Rosie’s Gardens for their donation to this project!



### Hamilton County Garden Network:

Stay up to date with quarterly meetings, speakers, and other resources available to the Hamilton County Garden Network by visiting [www.HamCoGardenNetwork.org](http://www.HamCoGardenNetwork.org).



Visit our website!  
[www.hamiltonswcd.org](http://www.hamiltonswcd.org)

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### **A Safe Well**

Water in nature, whether surface water or groundwater, is never pure "H<sub>2</sub>O." Instead, it contains a variety of dissolved minerals and gases that are usually harmless and give the water most of its taste. Some natural minerals, like iron, magnesium, or calcium can make well water aesthetically objectionable, but usually are not harmful. But water can sometimes be contaminated with things like bacteria, viruses, or chemicals that can harm our health. Contaminated water can often look, smell, and taste fine, so there is no substitute for periodic testing of well water. Proper well construction, disinfection, system maintenance, and regular water testing all help to assure safe drinking water. It is recommended that your well is tested yearly for nitrates, bacteria and arsenic and once every 5-8 years, or if you notice a change, for a broader chemical panel.

In most of northern and central Indiana, it is possible to construct a well that will provide an adequate supply of drinking water that is both naturally safe and aesthetically acceptable. Some well water will contain "aesthetic contaminants," substances that can cause hardness, objectionable tastes or odors, staining, or other non-health effects. Water treatment can often reduce or remove these contaminants.

Some well water can also contain contaminants that can adversely affect health. These can either occur naturally, as in the case of arsenic, or as the result of human activities such as chemical spills, improper waste disposal, or failing septic systems. Wells that are old, shallow, in disrepair, or are not properly located and constructed are more likely to have unsafe water. It is always preferable to have naturally safe well water, rather than relying on treatment. Drilling a well deeper can give additional protection from surface contaminants such as nitrate and spilled chemicals.

Let us help with your water issues by conducting a water well assessment. Contact the office for more details.



If you wish to be removed from our distribution list, to make a name or address change, or to switch to email newsletters, please call 317-773-2181 or email [soil.water@hamiltoncounty.in.gov](mailto:soil.water@hamiltoncounty.in.gov).

**All programs and services of the Hamilton County Soil and Water Conservation District are offered on a nondiscriminatory basis without regard to race, color, religion, sex, marital status or disability.**