



# NEIGHBORHOOD DESIGN MANUAL

**For the United City of Yorkville  
Traditional Neighborhood Area**

February 21, 2019



# EXECUTIVE SUMMARY

---

## **Purpose of this Manual**

This Neighborhood Design Manual was prepared in accordance with the Goals & Policies of the 2016 Update to the Yorkville Comprehensive Plan, specifically Section 6 – Yorkville Neighborhoods which proposes “Strategy B: Prepare a Neighborhood Design Manual” to retain and enhance the character and livability of Yorkville’s traditional neighborhoods.

This manual was prepared between May and December of 2018 and included a field survey of the traditional neighborhood areas to create a photographic record of the housing stock as well as to collect and note key characteristics which may affect policy decisions.

This manual should be considered separately from the existing Design Guidelines which are primarily concerned with Yorkville’s developing areas. The strategies suggested here are intended primarily for existing residents with supplemental guidance for new construction and major renovations.

**The contents of this manual are for informational purposes only. All price figures are estimates made at the time of this manual’s issuance and are subject to change.**

## **What’s Inside**

### **Section 01. Neighborhood Overview**

The Neighborhood Overview provides a brief background description of the traditional neighborhood area as well as defining the study boundary and describing the nature of its relationship with the Fox River.

### **Section 02. Guidelines for Home Maintenance & Repair**

The Guidelines for Home Maintenance & Repair describe some common problems with traditional homes, suggest potential solutions, and provides 6-month and 12-month maintenance checklists to help with upkeep of existing residences. This section also provides a brief list of additional resources and incentive programs for these homes.

### **Section 03. Guidelines for Renovation & New Construction**

The Guidelines for Renovation & New Construction describe three key characteristics: scale, layout, and orientation that new development should seek to emulate in order to blend into the fabric of the surrounding neighborhood.

### **Section 04. Guidelines for Landscaping & Green Infrastructure.**

The Guidelines for Landscaping & Green Infrastructure provide best practices for the landscape and hardscape surrounding homes in the traditional neighborhood area. These sections discuss the importance of native plants and provide guidance on simple green infrastructure practices which can be implemented at home.



# TABLE OF CONTENTS

---

<b>Section 01. Neighborhood Overview</b>	<b>4</b>
<b>Section 02. Guidelines for Home Repair &amp; Maintenance</b>	<b>9</b>
<b>Section 03. Guidelines for Renovation &amp; New Construction</b>	<b>15</b>
<b>Section 04. Guidelines for Landscaping &amp; Green Infrastructure</b>	<b>21</b>
<b>Section 05. References</b>	<b>27</b>

## List of Figures

<i>Figure A. Traditional Neighborhood Area (Map)</i>	<i>5</i>
<i>Figure B. Residence Breakdown by Age (Table)</i>	<i>6</i>
<i>Figure C. Residence Breakdown by Age (Map)</i>	<i>7</i>
<i>Figure D. 1939 Aerial Photography Courtesy of Kendall Township</i>	<i>6</i>
<i>Figure E. Where Stormwater Goes</i>	<i>8</i>
<i>Figure F. LID Diagram</i>	<i>8</i>
<i>Figure G. Pipe Material vs. Expected Lifespan (Table)</i>	<i>11</i>
<i>Figure H. Roof Material vs. Expected Lifespan (Table)</i>	<i>11</i>
<i>Figure I. 6-Month Maintenance Checklist</i>	<i>13</i>
<i>Figure J. 12-Month Maintenance Checklist</i>	<i>13</i>
<i>Figure K. How a Rain Garden Works</i>	<i>23</i>
<i>Figure L. Pavement Materials, Cost vs. Lifespan (Table)</i>	<i>24</i>
<i>Figure M. Permeable Pavements, Cost vs. Lifespan (Table)</i>	<i>25</i>
<i>Figure N. How Permeable Pavements Work</i>	<i>25</i>
<i>Figure O. Different Types of Permeable Pavement</i>	<i>25</i>
<i>Figure P. How a Rain Barrel Works</i>	<i>26</i>
<i>Figure Q. Key Elements of a Rain Barrel System</i>	<i>26</i>



# 01 Neighborhood Overview



Image 1: A Home on the South side of the Fox River

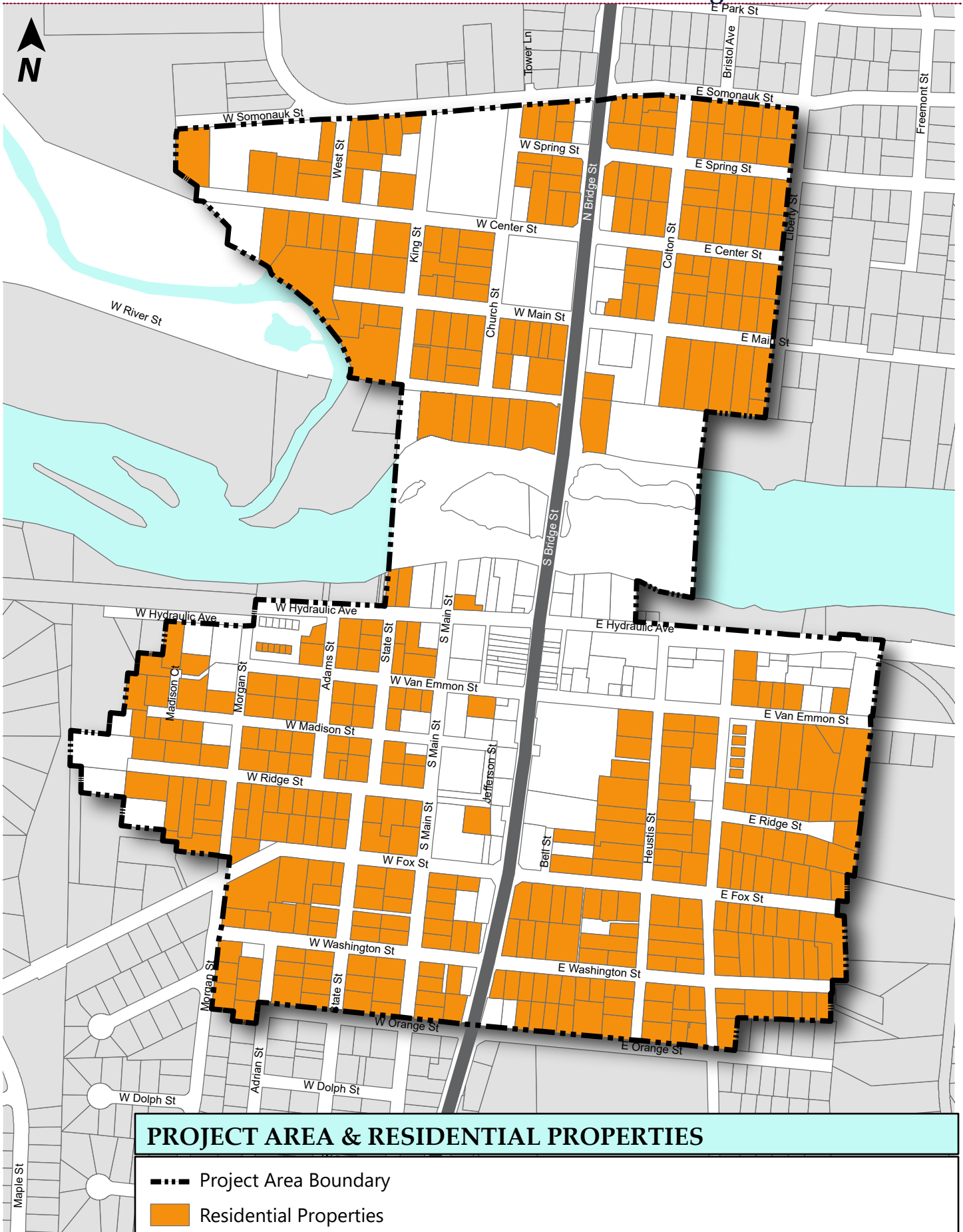
## Introduction

Yorkville's traditional neighborhoods are located around Downtown, both north and south of the Fox River (Figure A). The study area for this manual includes those areas with the highest concentration of vintage homes and irregular lots, consisting of the area running from Somonauk Street on the north side of the Fox River to Orange Street to the south and extending two to three blocks east and west from Bridge Street.

This neighborhood is defined by homes dating from the original settlement of Yorkville and Bristol in the mid-1800s through the post-War period in the 1960s and includes a huge variety of home types and architectural styles.

Figure A: Traditional Neighborhood Area







# Neighborhood Overview

## History

The first permanent structure in what would come to be the United City of Yorkville was built in 1833 by Earl Adams, located south of the Fox River, atop of the hill which is now home to the Kendall County Courthouse. Around the same time, Lyman and Burr Bristol began to develop property on the north side of the Fox River. Between 1834 and 1836 the community of Bristol was platted north of the Fox River and in 1836 Rulief Duryea laid out the village of Yorkville on the south side. The designation of Yorkville as the Kendall County seat in 1859 would guarantee future development of Bristol and Yorkville and they would be incorporated by 1861 and 1887 respectively.

The coming of the railroad located south of the river along Hydraulic Street would spur the development of downtown Yorkville making it the business and industrial center of this growing region and leaving Bristol on the north banks of the river as a more residential area. The impacts of this can still be seen today. The area with the highest concentration of pre-1900 homes is overlooking the river on the north bank of the Fox River in what used to be Bristol.



Image 2: A Home along Bridge Street, tucked behind old growth trees on the North Bank of the River.(Left)

Figure B (Table) & C (Map): Breakdown by Age

Original Construction	Number of Homes	% Total
Pre 1900	125	30%
1901 - 1949	85	20%
1950 - 1974	89	21%
1975 - 1999	69	16%
2000 - Present	27	6%
Unknown	26	6%
<b>Total</b>	<b>421</b>	<b>100%</b>

Figure D: 1939 Aerial Photography courtesy of Kendall Township CAMA Sales Viewer (Below)

By 1940, downtown Yorkville and Bristol had grown up and away from the River to define the boundaries of what we consider the Traditional Neighborhood area today.

In the years following the Second World War, the population of Yorkville would explode leading to the consolidation of the Yorkville-Bristol governments in 1957. This period would be marked by the prevalence of American suburban tract style housing in previously undeveloped areas but the area around downtown Yorkville would see new infill development as well, particularly in the areas south of Fox St and in the cul-de-sacs West of Morgan and East of Mill Street.



**N**





## Neighborhood Overview

### The Fox River

Built above the banks of the Fox River, the water has played an important role in the history of Yorkville as well as in its present-day appeal, making the protection and enhancement of the river in the interest of every resident.

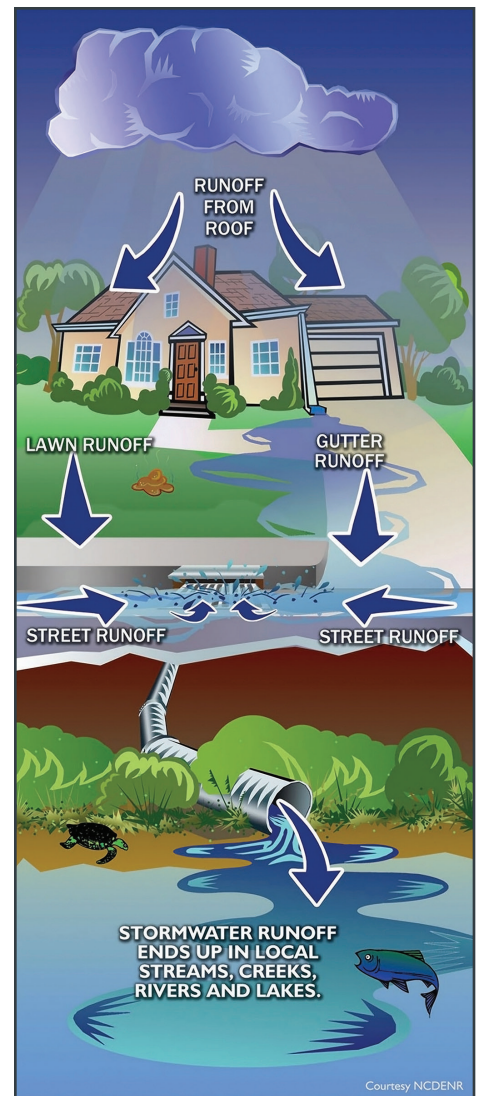
Anything that happens in the Fox River basin has an impact on the river, and urbanization and development can be especially harmful. Storm water runoff from urbanized areas like roofs, lawns, and pavements can carry pollutants such as oil, debris, or sediment into the river and runoff from roofs or paved surfaces can raise the temperature of water several degrees!

While waste water from your home is treated at a municipal water treatment plant, storm water runoff is typically collected in curb inlets and drains and conveyed underground before being discharged directly into the River. This means that it is up to each and every home owner, especially those nearest to the River to take the protection of this resource into their own hands.

Homeowners can help protect the Fox River in a number of ways including everyday practices such as making sure to pick up after your dog or sweeping rather than hosing your driveway and sidewalk, to more permanent improvements such as installing permeable pavers in your driveway or transitioning to a native plant garden over a traditional lawn. The last section of this manual contains a number of best practices for Green Infrastructure to preserve and protect the Fox River.

Figure E: Where Stormwater Goes. (Right)

Credit: NCDENR



### Low Impact Development

Low Impact Development, or LID, is an alternative to traditional development patterns with an emphasis on minimizing the impact on the natural environment. With LID, development should minimize the amount of impervious surfaces (like roofs and pavement) and maximize the amount of stormwater runoff that is infiltrated into the ground on site through the use of permeable pavements, rain gardens, rain barrels, and other Green Infrastructure Practices (GIP). Green Infrastructure is most effective when it's small scale and distributed around a watershed, giving every homeowner an important part to play.

Figure F: An LID Diagram Showing Runoff being routed from impervious surfaces to a Rain Garden in the rear. (Below)

Credit: Doug Adamson, RDG Planning & Design, Image Courtesy of USDA-NRCS in Des Moines, Iowa





# Guidelines for Home Repair & Maintenance

# 02



Image 3: Faded whitewashing reveals the original masonry on a 100+ year old Home on the North side of the River (Above)

## Introduction

The homes around downtown Yorkville are part of what makes this district so appealing and unique.

Since vintage homes were typically made out of natural materials and often used more durable building practices, a 100 year old home could still be in good shape today, if it was well maintained.

While owning one of these homes is an appealing prospect for many people, it comes with a number of specific challenges which owners should be aware of.



# Home Repair Guidelines

## Common Problems

### *Hazardous Materials*

Lead and asbestos are two hazardous materials commonly found in older homes. Lead can be found in exterior and interior paint made before 1978, as well as plumbing systems from prior to World War 2. Asbestos is a naturally occurring fibrous material that can cause serious lung and respiratory problems, including cancer. It was commonly used for insulation and fireproofing until it was banned by the EPA in the late 1980s.

Lead can be most hazardous for those with children, as it can lead to developmental issues. If you're concerned about lead in your house, it may be worthwhile to contact a professional lead paint removal service. If your plumbing system is very old, it could still contain measurable amounts of lead. A water filtration system for the entire home can cost between \$1,000 and \$3,000. A system for the kitchen tap alone may cost more than \$200. However, if your pipes contain lead, the only way to ensure that your water is lead free is to replace your home's entire piping system which can cost upwards of \$5,000.

While direct, prolonged exposure to asbestos can be a serious health hazard, insulation tucked away in walls or attics is not likely to pose a direct risk. However, removal and the fulfillment of special EPA criteria are required if you plan on knocking down walls, expanding your home's footprint, or attempting other expansive projects likely to uncover asbestos-laden material.

More info can be found at: <https://www.epa.gov/asbestos/>

### *Mold & Mildew Damage*

Over time, homes exposed to excessive moisture can develop mold and mildew problems. Although particularly common in basements and bathrooms, moisture-related damage can occur anywhere and since infestations can start inside walls, it is possible to walk through a mold-infested home without realizing there's a problem.

While small amounts of mold or mildew are permissible and nearly inevitable, when left unchecked they can cause serious issues. Oftentimes the first sign can be a persistent cough or unseasonal allergies. Since mold eats away at its host surface it can also manifest in structural or foundational problems.

The best solution for mold and mildew are prevention. Ensuring proper ventilation in interior spaces or purchasing a dehumidifier can have a significant impact at low cost. Small infestations of mold or mildew can be treated by hand with store-bought sprays and an abrasive sponge or brush, but larger infestations may require professional assistance. Before buying an home, ensure that your homeowners insurance policy covers mold cleanup.

### *Foundation & Structural Problems*

As homes age, they become prone to a variety of foundational and structural issues including settling or damage to structural elements. Signs of structural damage can range from doors which jam or fail to latch, cracked tile or concrete floors, visible wall cracks that grow over time, or floors that are clearly off-level.

Any apparent foundation or structural issue requires the opinion of a structural engineer. Catching an issue sooner rather than later can make a big impact on your wallet. While addressing minor issues can cost between \$300 to \$800, wholesale replacement can be in excess of \$20,000 to \$30,000. Homeowners insurance often doesn't cover the costs of structural repairs so you should expect these costs to be out of pocket.



Image 4.  
Credit: Michael Coghlan



Image 5: Mold & Mildew prefer places that are damp such as basements, crawlspaces, foundations, as well as on building faces that receive minimal sun (Above)



Image 6: Dangerous Settling around the Foundation



## Plumbing Expiration & Failure

All plumbing systems have an effective lifetime, so its important to know when the current plumbing system was installed when buying an old home.

Homes with large trees in their front yard should be particularly aware, due to the possibility of root and line failure. Tree roots tend to grow toward underground water lines and can cause failure outside of the home. Replacing a root-infested main pipe can cost between \$5,000 and \$20,000, but periodic maintenance of problem roots can cost as little as \$300 every few years.

Pipes made out of polybutylene, a grayish, flexible material common in the 1970s to 1990s should be replaced as soon as practicable. Chlorine, which is used to treat municipal water and is found in many household cleaners reacts with polybutylene, corroding the pipe and can lead to spontaneous failure.

## Septic System Maintenance

While most homes in the traditional neighborhood area do not use septic systems, it is a common feature among many traditional homes or homes that were originally outside of the main town center. The US EPA identifies four key elements to maintain your home septic system. First, inspect and pump frequently. The average household septic system should be inspected every 3 to 5 years. Alternative systems with mechanical components should be inspected more frequently. Secondly, use water efficiently. The vast majority of water used in your home will eventually find its way to your septic system. Conserving water improves the performance and reduces risk of failure with a septic system. Third, properly dispose of waste. Think carefully before dumping something into your septic system. Avoid flushing anything besides toilet paper and human waste into your septic system and avoid dumping chemicals in your sink. And finally, maintain your drainfield. Your drainfield is responsible for removing contaminants from water after it is released from your septic tank. Avoid parking on your drainfield and speak with a professional regarding suitable distances for plants.

More info at: <https://www.epa.gov/septic/how-care-your-septic-system>

## Roof Problems

Like plumbing systems, roofs have a natural lifespan as well.

Compromised roofs can lead to a number of issues including water damage, poor insulation, or pest infestations. Warning signs of potential roof issues include missing or damaged shingles, crumbling roof cement, bowed or sagging gutters, and persistent moisture in the upper stories of the house.

Special care should be taken on historic homes to match the existing shingling or tile pattern as these are often key architectural elements that define the structure's appearance.

Figure G: Pipe Material vs. Expected Lifespan

Pipe Material	Typical Lifespan
Copper or Brass	Up to 50 Years
Steel	20 Years
PEX or HDPE	40 - 50 Years
Polybutylene	Replace Immediately

Source: MoneyCrashers.net

Figure H: Roof Material vs. Expected Lifespan

Roof Material	Lifespan
<b>Sloping Roofs</b>	
Asphalt Shingles	15 - 40 Years
Treated Wood Shingles	30 Years
Fiberglass Shingles	50+ Years
Steel	40 - 60 Years
Copper	100+ Years
Clay Tiles	40 - 60 Years
Stone or Concrete Tiles	60 - 100 Years
<b>Flat Roofs</b>	
Asphalt-Gravel	10 - 15 Years
Rubber-Coated	Up to 50 Years
Thermoplastic Olefin Membrane	50 Years

Source: MoneyCrashers.net

Image 7: Traditional Homes often feature intricate shingling, made of clay tiles and placed by hand.



# Home Repair Guidelines

---

## Energy Efficiency Improvements

The most common point of failure for your home's HVAC system is the window. Many vintage homes have single-coated or leaky windows which can add \$125 to \$465 to your annual energy bill depending on where you live. While replacing older windows with more modern double or triple-plane windows can make a huge impact on your energy bill, other small improvements can see significant benefits as well. Passive heating and cooling methods, such as shutting windows and blinds on hot days and opening them at night, and by using plastic film to seal leaks during the winter can have a major impact.

In addition to sealing your windows, many homes sit on stone, brick, or concrete foundations that may have settled over time allowing gaps to form. Before addressing any large air leaks with caulk, trowel these gaps closed with mortar.

Warm air rises, and during the winter uninsulated attics or leaky chimneys may lose a lot of heat. Most fireplaces built since 1900 have dampers just above the firebox to close off the flue to limit heat loss when it's not in use. Make sure the damper is not damaged by age and is not stuck open or shut. Consider closing off chimneys permanently that see no use. Sealing off attic penetrations and installing additional insulation can prevent air and moisture migration which can saturate and freeze insulation and turn to frost. Close off large penetrations with plywood or wallboard, then seal all joints and cracks with clear caulk.

Replacing old or out of date mechanical equipment can also have a significant impact on energy usage. Consider the lifespan of current equipment, the cost of a replacement, and the savings in energy cost to determine if an upgrade is right for you.

### *Inefficient or Failing Electrical & Mechanical Systems*

Electrical problems in homes come in two categories: convenience and safety.

Unless your home has been updated, the electrical system is likely not equipped with the number of outlets to meet modern needs. In addition, older wiring has a lifespan of 70 – 100 years and can increase the risk of electrical shocks or fires. Other mechanical equipment in your home typically has a much shorter lifespan, between 10 to 20 years.

Research the type of appliances in your home to determine how much longer they can be expected to last. It is better to replace your furnace during the summer than to have it unexpectedly go out during the cold Illinois Winter.

Image 8: New Windows on an traditional Home can make a big impact when it comes to your heating and cooling bill. The size and shape of the windows is an important aspect of many architectural styles so make sure that matching the design on the rest of the house is taken into consideration





## Home Maintenance

When it comes to traditional homes, an ounce of prevention is worth a pound of cure. While the natural materials used in homes lend themselves to do-it-yourself maintenance, responding to an unforeseen emergency can result in repairs that damage the integrity, character, and appeal of an old home. Before removing or demolishing any elements of your old home, STOP and do a little research. You may be removing an important piece critical to the structural integrity or architectural appeal of your home. If you're unsure, call a professional or contact the Community Development department.

### 6-Month Maintenance Checklist

- ⚡ *Clean debris from all gutters & downspouts.*
- ⚡ *Clean debris and remove standing leaves from all flashings & valleys. Check for any standing water, rust, or damaged flashings & roofing materials.*
- ⚡ *Check for any cracks, loose mortar, or damaged bricks around chimney bases and home foundations.*
- ⚡ *Apply any caulk or silicone as needed prior to painting any finished wood.*

*Checklists Courtesy of the Craftsman Blog w/ Scott Sidler*

Figure I (Above) & Figure J (Right): 6 & 12-Month Maintenance Checklists

Image 9: Vintage Homes can have beautifully intricate styling and detailing which can require a lot of maintenance to keep looking good. Staying on top of maintenance can save time and money, while making sure that small issues don't spiral into big problems.

### Annual Maintenance Checklist

- ⚡ *Look for loose bricks, weak mortar, and flashing damage like rust at chimney tops. Inspect the inside of the chimney for leaks or hidden mortar damages.*
- ⚡ *Pitted & decaying masonry, cracks, or scaling should all be noted.*
- ⚡ *Inspect all mortar joints, especially those on the sunniest (SW) and wettest (NE) side of the house for cracks, loose pieces, or scaling mortar.*
- ⚡ *Check for any air leaks, water damage, loose panes, or crumbling glazing putty around windows and doors. Paint windows and doors that are faded to prevent future damage from sun, wind, and rain.*
- ⚡ *Inspect siding for peeling paint & sun damage which can be easily repaired with a new coat of paint. Cupping, splitting, or loose nails are all signs that professional help may be required.*



# Old & Historic Home Programs

---

## Home Restoration Incentive Programs & Resources

*The Standards for the Treatment of Historic Properties with Guidelines for preserving, rehabilitating, restoring, and reconstructing historic buildings - Published by the US Secretary of the Interior*

The "Standards" are a great resource and starting point when it comes to working on your old home. While the "Standards" only apply to properties seeking registered "Historic Building" status, the guidelines are a good aid on any project. The guidelines break treatment into four types: preservation, rehabilitation, restoration, and reconstruction, and have specific guidance for interiors, exteriors, cultural landscapes, and different material types.

They can be found online at: <https://www.nps.gov/tps/standards/treatment-guidelines-2017.pdf>

### *Landmarks Illinois*

Landmarks Illinois is a membership-based non-profit organization for the preservation of historic spaces and landmarks across Illinois. They are a mix of professional preservationists and dedicated activists which offer a wide range of grants and incentive programs. Their Illinois Restoration Resources Directory can point homeowners in the right direction for any job. More information at: [www.landmarks.org](http://www.landmarks.org)

Illinois Restoration Resources Directory: <http://www.landmarks.org/resources/illinois-restoration-resource-directory/>

### *The Illinois Weatherization Assistance Program*

The Illinois Home Weatherization Assistance Program (IHWAP) is designed to help low income residents save fuel and money, while increasing the comfort of their homes. Its mission is to help update and insulate the dwellings of low-income persons, particularly the elderly, persons with disabilities, and families with children. To qualify, participants must be a resident of the State of Illinois and earn below a set income level. If you receive Supplemental Security Income or Aid to Families with Dependent Children, you are automatically eligible to receive weatherization services.

More information at: <https://www.illinois.gov/dceo/CommunityServices/HomeWeatherization/>

### *Property Tax Assessment Freeze for Historic Residences*

The Property Tax Assessment Freeze for Historic Residences freezes property taxes over a 12-year period after rehabilitation of the property. There is a minimum 25% investment of the property's market value, the building must be owner-occupied, and a certified historic structure.

More information at: <https://www.illinois.gov/dceo/CommunityServices/HomeWeatherization/>

### *Online Resources*

There are a number of great resources for historic home preservation, restoration, and maintenance available online. Advice blogs and forums can help to answer specific questions about your home, inspire new ideas, or serve as a starting point for learning about the history of your building.





# Guidelines for Renovation & New Construction

# 03



Image 11 (Above): A Newer home in Old Bristol which blends seamlessly with the older neighborhood around it.

Image 10 (Opposite): A Property on the North bank of the Fox River

## Introduction

Although it's usually preferable to keep or preserve a vintage house wherever possible, certain conditions can make a home unusable or undesirable in the present day. When this is the case, it's important to blend the new home into the fabric of the neighborhood so the newer building doesn't seem out of place.

While part of what makes the traditional downtown neighborhoods so special is the diversity of housing styles, there are a few key elements that will help a home feel like it is part of the neighborhood. These are **scale, layout, and orientation**.



## Renovations & New Construction

### Scale

Nothing makes new construction seem more immediately out of place than being out of scale with the surrounding buildings.

A home built to the maximum allowable height will often seem out of place when surrounded by traditional single story homes.

The maximum allowable building height in the R-1 & R-2 Zoning District is 30' (2.5 Stories).

Where new homes are built taller or larger than their neighbors, architectural consideration should be taken to maintain the existing roof-line when seen by a pedestrian from the public right of way. This could be achieved through screening with existing trees, stepping the roof so that additional stories are set back, or through other means on a case-by-case basis.

### Layout

The traditional neighborhoods of Yorkville & Bristol have a much higher concentration of irregular & legally non-conforming lots than the rest of the city.

Front and side setbacks vary drastically throughout the traditional downtown neighborhoods and an articulating street wall contributes significantly to its character. As with scale, the layout of the property should be considered to match the surrounding fabric.

Many homes are set closer to the street than the minimum 30' Front Yard requirement. Where the surrounding homes are set nearer or further from the property line than is standard, new constructions and renovations should aim to be within 10' of the surrounding properties.



Image 11: A New Home in Old Bristol uses a stepped-roof to transition from a Single-Story near the property line to the full 2.5 stories further back on the lot.



Image 12: An Example of What Not to Do: The massing of the new home provides no opportunity to transition to the single-story home next door.



### Orientation

Homes in the traditional neighborhood should be oriented to address the street.

In general, a street-facing wall of a building should not be completely blank or consist entirely of a garage door.

Most homes in this area were constructed before garage doors became a must-have part of the house, so many of them were added later as accessory structures. This means that the garage is often set in back of the house or to the side of the main building. The garage door should not be the focal point of the building when viewed from the street.



Image 13: A home with an attached garage added after the date of original construction.

### Renovations

Despite all the benefits and appeal of living in a vintage home, the accumulated damage to key structural features or simply the passage of time can make it no longer suitable for present-day use.

When this is the case, consider contacting an architect or architectural historian before beginning any work and make sure to carefully document any pieces of the original building that you wish to maintain after the renovation.

Many of the homes in the traditional downtown neighborhood are considered legally nonconforming and are grandfathered in due to their age. Contact the Community Development Department before beginning any work to determine the best way to renovate the structure for present-day use while maintaining its architectural appeal and the overall character of the neighborhood.

The following section outlines some key elements that are common to a variety of homes within the traditional neighborhood area.



Image 14: Even on newer homes where the garage is an integral part of the building it should not be the focal point. The building addresses the street and the garage is offset to one side.



## Key Elements

### Porches

For most people, the front porch is the element of your home that they'll see the most. In addition to providing curb appeal, the front porch can be a great place to relax and enjoy the breeze on a cool summer evening.

For safety reasons, porches with a floor height more than 30" above the exterior grade require some sort of protective railing. The railing may consist of a solid wall as shown to the right or balusters between two rails. In general, the railing height should never be higher than the bottom of the window sill.

In addition to the railing, many porches feature columns which frame the front entrance and act as architectural guideposts in addition to providing structural support. The style of column can vary greatly from home to home and is dependent on the design of the rest of the house. When renovating an old home, care should be taken to preserve or replicate the styling of historic elements to be incorporated into the new design.



Image 15: A porch with balustrade railing



Image 16: A well proportioned and maintained porch.



Image 17: The stone columns here frame the front door and complement the stone used throughout the rest of the porch and building design.



Image 18: Columns that are a key element of one home may seem out of place when implemented somewhere else.

On porches less than 30" above the surrounding grade, no railing is required.



### Windows & Doors

Replacing the windows and doors on your old home can be appealing because of the gains in energy efficiency that a modern replacement would entail. However, like most architecturally significant home elements, care should be taken to preserve existing elements where possible and to match historic styling when replacement is necessary.

In many cases, adding an exterior storm window to an existing historic window can provide the same energy efficiency improvements as a modern replacement while preserving the historic element and architectural character.

Many homes in the traditional neighborhood area use wooden shutters to accent their windows and provide an element of architectural pop. Light colored homes use dark colored shutters to accent the window frame and set it off from the rest of the building face. On homes with a dark façade, white window trim itself is often enough to draw the eye and make the window stand out.

Unlike with windows, the front door itself is typically designed to stand out from the rest of the building façade. Complementary colors and white trim serve to highlight the doorway and mark it as a key element of the building.



Image 19: These same principles can be applied to garage doors to integrate them into the rest of the home design.



Image 20: Dark shutters help the white windows stand out and provide an interesting splash of color to an otherwise uniform building face



Image 21: Complementary colors can highlight a doorway and make it stand out from the rest of the facade



## Key Elements

### Siding

The great debate when it comes to vintage homes is whether to preserve the existing wood siding and accept the maintenance burden that comes along with it or to replace or cover it with vinyl and sacrifice the architectural detail and character.

While some purists argue that vinyl siding will ruin a neighborhood by giving it a “cheap” or “plastic” feel, the effect of wood siding that hasn’t been maintained over time can often look much worse by making things look run-down. Before deciding whether to preserve or restore the wood siding on your home, think carefully about whether or not you’re willing to continue investing the time and money necessary to keep it looking sharp.

The biggest drawback of replacing original wood siding with vinyl is that you will often cover up significant architectural elements that can define a building’s character. Vinyl siding typically has a larger clapboard with than wood which can have a significant impact on the shadows it creates as well as distorting or obscuring other key elements such as windows. Oftentimes when homeowners remove vinyl siding that had been installed at an earlier time they’ll uncover significant elements that they never knew existed!

While original materials should be preserved wherever possible, routine care and maintenance is critical to maintain the appearance and extend the life of wooden elements. Wooden siding often needs repainting every 3-6 years. Fresh paint helps to keep the house looking fresh and helps to protect interior spaces by creating a barrier that stops moisture before it can penetrate the wood.



Image 22: Covering up wood siding can obscure or erase completely architectural elements that help make your home unique.



Image 23: Narrower clapboards allow for more intricate detailing. However, the finer the detail the greater the burden for upkeep.



# Guidelines for Landscaping & Green Infrastructure

# 04



Image 24: A Native Plant Garden

## Introduction

The landscaping and hardscaping around your house is oftentimes the easiest and most affordable way for your home to contribute to the character and environment of the downtown neighborhoods.

Built on the banks of the Fox River, the neighborhoods around downtown play an important role in its vitality.

In addition to enhancing the character and improving the appeal of the neighborhood, the landscaping and hardscaping around your house plays an important role in reducing the pollution and runoff that makes its way into the river when it rains.



# Landscaping & Green Infrastructure

## Go Native!

The use of native plants is at the core of environmentally friendly landscaping. Native plants are those species that were present locally when the first colonists arrived after evolving over thousands of years to thrive in local conditions. Native plants can live off of rainwater alone without adding fertilizer, and their deep roots help infiltrate rain where it falls and carry moisture deep into the ground to replenish our aquifers, cleaning as it goes.

Native prairie and woodland plants evolved in the climate of Northern Illinois and can handle the cold deep freeze, the spring rains, and the drought conditions that we experience in Yorkville. Once they are established (usually after one or two growing seasons) they rarely need to be watered and don't require any fertilizer. Their deep roots hold the soil, allow water to filter down deep into the ground, and because they evolved here, they attract dozens of species of beautiful and beneficial wildlife like butterflies and songbirds.

While native plant gardens are generally preferable to traditional lawns, not all native plants provide the same benefits or are ideal in every situation. While some native plants have adapted to the sun-drenched prairies that make Illinois famous, others are more accustomed to the dappled sunlight of deciduous woodlands. Choosing the right native plants is key to a beautiful and healthy garden.

Many additional resources, including a visual glossary of native plant species, are available from the Conservation @ Home project by the Conservation Foundation, as well as the Illinois Department of Natural Resources, and IllinoisWildflower.com to help you pick the right native plants for your home.

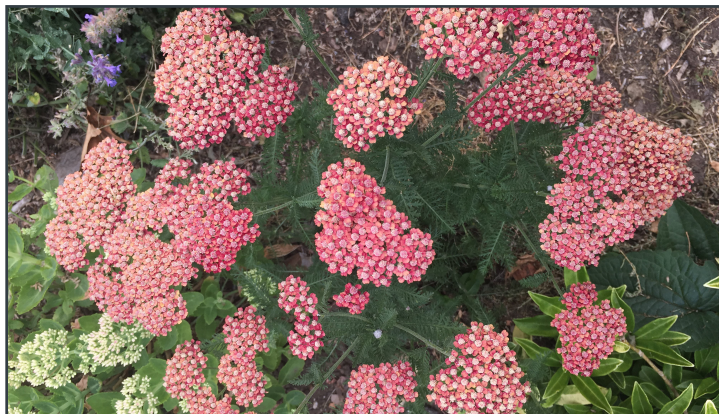


Image 25:  
Milkweed is the  
State Wildflower  
of Illinois.

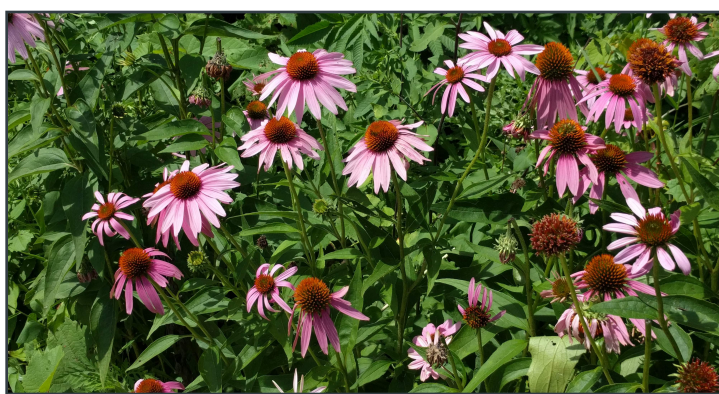


Image 26:  
Coneflowers  
attract a wide  
variety of  
pollinator bees  
and butterflies

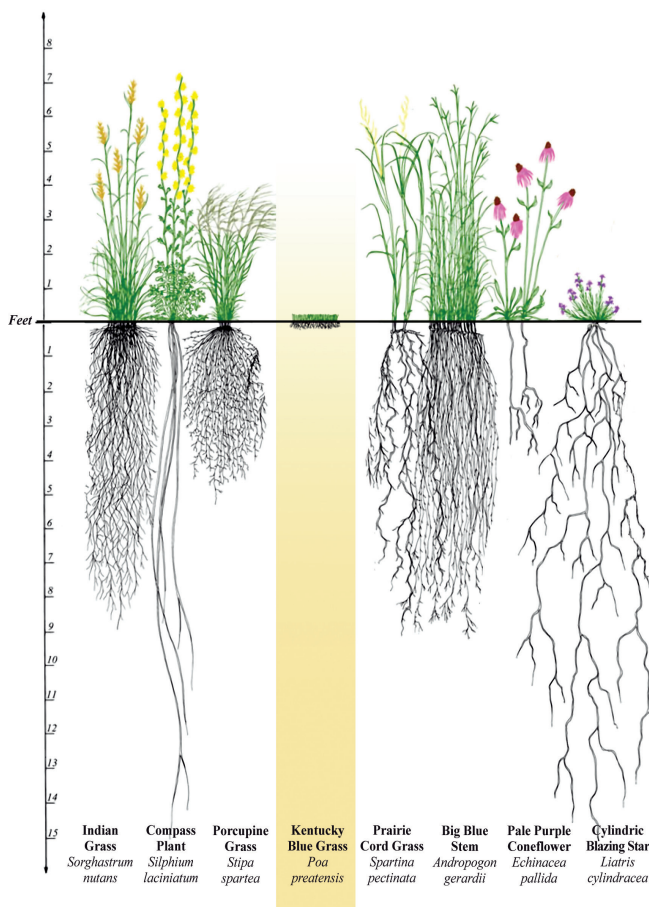


Image 27: The deep  
root systems of  
native prairie plants  
help infiltrate water  
through the earth deep  
underground as well  
as to hold the soil in  
place when it rains  
and prevent erosion.



### Rain Gardens

A rain garden may appear to be just an attractive garden but beneath the surface it is so much more. It may support habitat for birds and butterflies, it may be a formal landscape amenity, or it may be incorporated into a larger garden as a border or entry feature. What makes it a rain garden is how it gets its water and what happens to the water once it arrives.

A rain garden, or bioretention basin, is a garden of native shrubs, perennials, and flowers planted in a small depression that is designed to temporarily store and infiltrate stormwater runoff from surrounding roofs, driveways, patios, and lawns. Rain gardens are effective at removing up to 90% of nutrient loading from runoff and up to 80% of suspended sediments and solids.

Rain gardens differ from wet gardens in that they should typically infiltrate runoff within 12-48 hours which prevents the breeding of mosquitoes. Often, amended soils are used in places where the current soil type has low permeability. An amended soil mix will typically contain about 60% sand, 15-20% topsoil, and 20%-25% organic compost.

In addition to providing an attractive burst of color to your lawn, native plants provide habitat for birds and butterflies, and their deeper root system is more resilient and hardy removing the need for fertilizer and requiring minimal maintenance after the first year.

Resources to help make a Rain Garden can be found at the Fox River Conservation Foundation, the Illinois Department of Natural Resources, or Groundwater.org.

Figure K: How a Rain Garden Works (Top)

Image 28: A Rain Garden with Native Prairie Plants

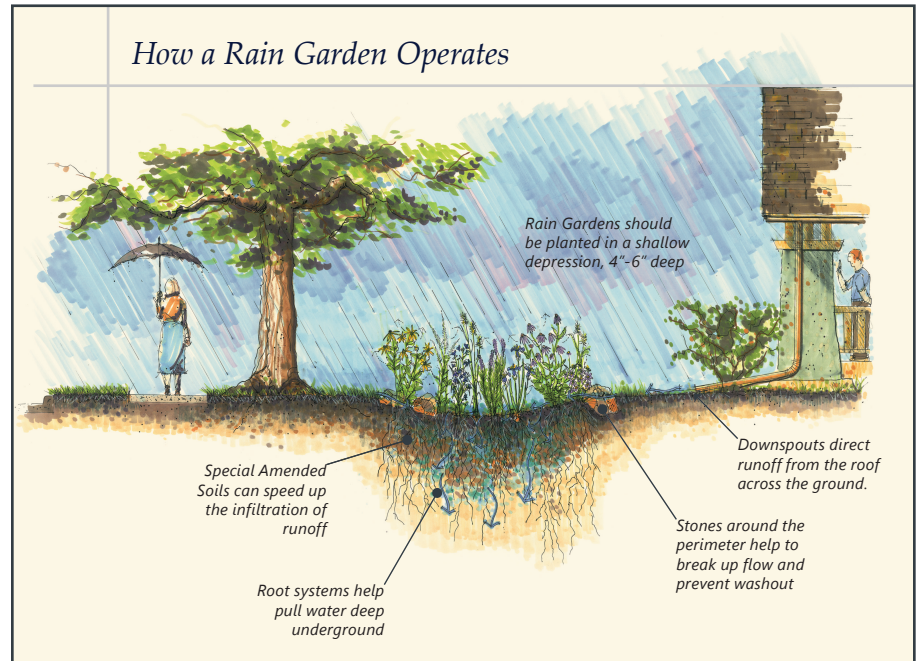
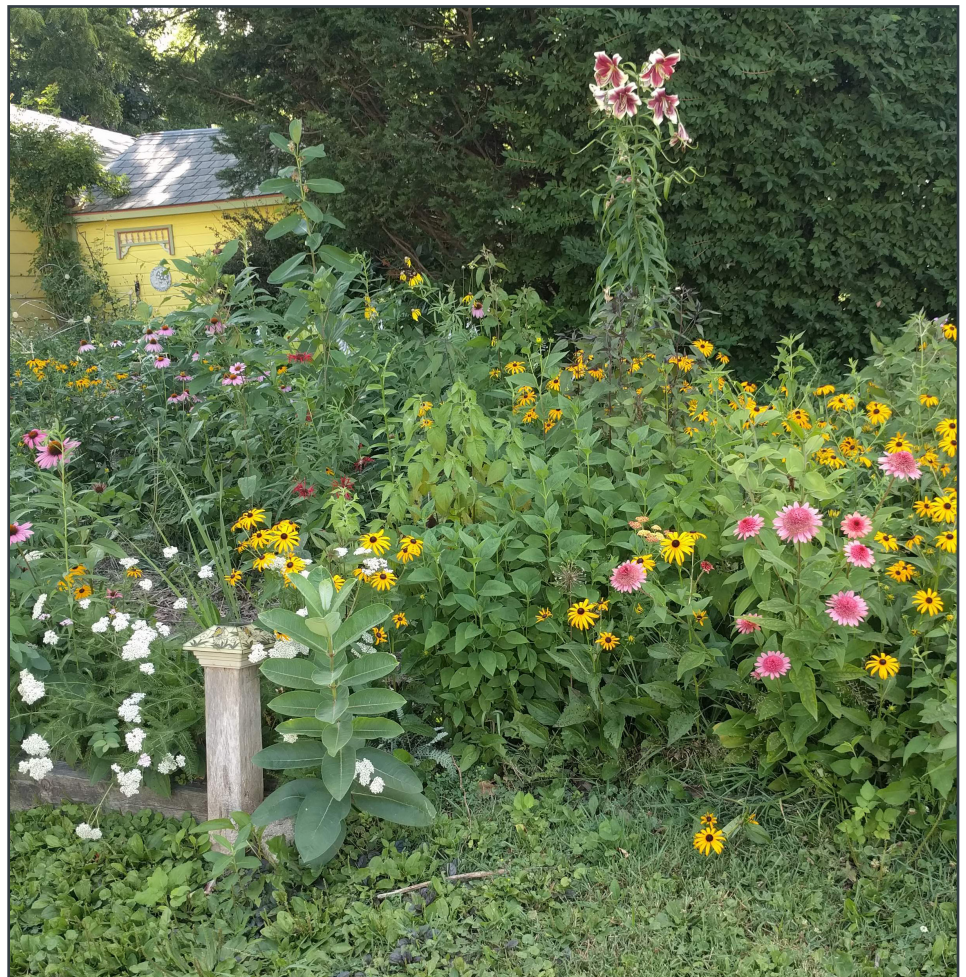


Illustration by: Doug Adamson, RDG Planning & Design  
Courtesy of: USDA-NRCS in Des Moines, Iowa





# Landscaping & Green Infrastructure

## Hardscape

In addition to the natural landscaping around your home, the impervious hardscape has a significant effect on the environmental impact and curb appeal of your home. Green Infrastructure such as rainwater harvesting or a permeable pavement driveway can significantly reduce runoff from your property and lower water costs.

Simple maintenance can make a significant impact on the quality of the hardscaping around your home. A curb along the side of your driveway, either concrete or wood can make a significant improvement in the lifespan of the surface.

In areas with steep terrain a retaining wall can level your property and create a useable lawn or garden where there wasn't one before. A retaining wall can also be useful where storm water runoff has led to erosion between properties.

New driveways can be made out of asphalt, concrete, or interlocking pavers. Each of these is also available in a permeable alternative which allows storm water to filter through the pavement and be absorbed into the ground underneath.

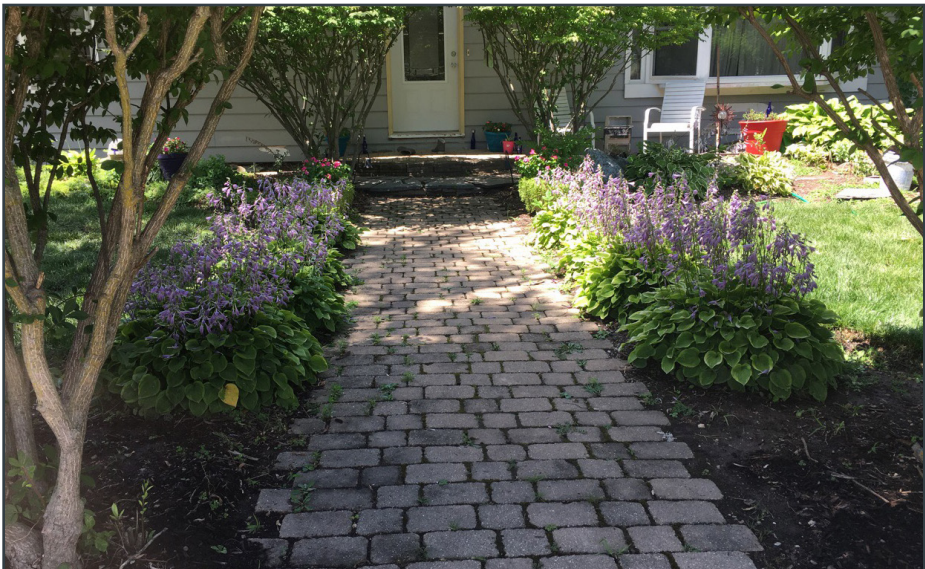


Figure L: Pavement Cost vs. Lifespan for various materials

Pavement Material	Cost	Lifespan
Gravel*	\$	5 - 10 Years
Asphalt	\$\$	15 - 20 Years
Concrete	\$\$\$	20 - 30 Years
Interlocking Pavers	\$\$\$\$	30 - 40 Years

*\*Existing Driveways Only*

Images 29, 30, & 31 (Top to Bottom): Paving Stones or Retaining Walls can improve the aesthetics as well as the longevity of outdoor hardscape areas.



## Permeable Pavements

Permeable pavements are a sustainable alternative to traditional pavements that reduce stormwater runoff and improve downstream water quality by infiltrating rainfall through the pavement surface into underlying soils promoting pollutant removal and groundwater recharge.

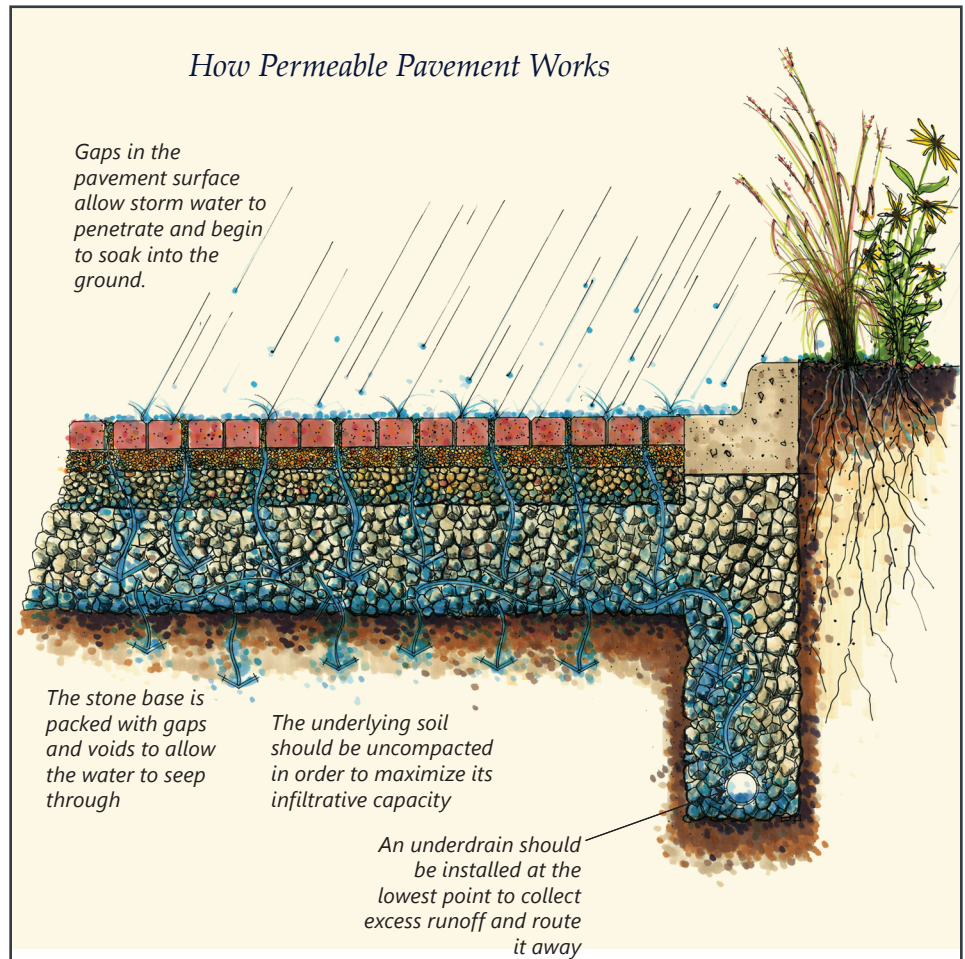
Permeable pavements include porous asphalt and concrete as well as block pavers and vegetated grid systems.

Depending on the design, paving material, and soil type, permeable pavements can reduce annual runoff by as much as 80%. It is critical that permeable pavement projects are maintained according to manufacturer specifications which often include sweeping or vacuuming sediments from permeable surfaces as well as replacement of drainage gravel in the voids of permeable paver systems.

While initial costs for porous pavements are typically higher than costs for conventional pavements, they are offset by eliminating the need for other stormwater infrastructure or by being used in conjunction with a rainwater harvesting device such as a cistern.

Pavement Material	Cost per SF	Lifespan
Porous Asphalt	\$0.50 - \$1.00	15 - 20 Years
Concrete	\$2.00 - \$6.50	20 - 30 Years
Interlocking Pavers	\$5.00 - \$10.00	20 - 30 Years

*Virginia DEQ Stormwater Design Spec. No. 7*



*Illustration by: Doug Adamson, RDG Planning & Design Courtesy of: USDA-NRCS in Des Moines, Iowa*

Figure M: Typical Costs & Lifecycles of Different Permeable Pavements (Left), Figure N: How Permeable Pavements Work (Above), Figure O: Different Types of Permeable Pavement (Below)

- ⚡ *Porous asphalt is the same as regular asphalt except it is manufactured with the finest level of stones omitted, leaving open spaces that allow water to filter through to a 'recharge' or drainage bed.*
- ⚡ *Porous concrete consists of cement, coarse aggregate, and water, with little to no fine aggregates (such as sand or clay) leaving up to 30% of the concrete as void spaces to filter water to the underlying reservoir layer.*
- ⚡ *Permeable pavers are comprised of interlocking concrete bricks, separated by joints or gaps, filled with small stones or sand laid over a bed of aggregate stones. Water is able to infiltrate through the joints in the pavers and is stored in the voids of the aggregate below where it is slowly filtered back into the soil.*
- ⚡ *Vegetated grid systems are plastic or concrete grids over a bed of drainage material and soil. The voids are then seeded with low maintenance grass varieties.*

# Landscaping & Green Infrastructure

## Rain Barrels & Rainwater Harvesting

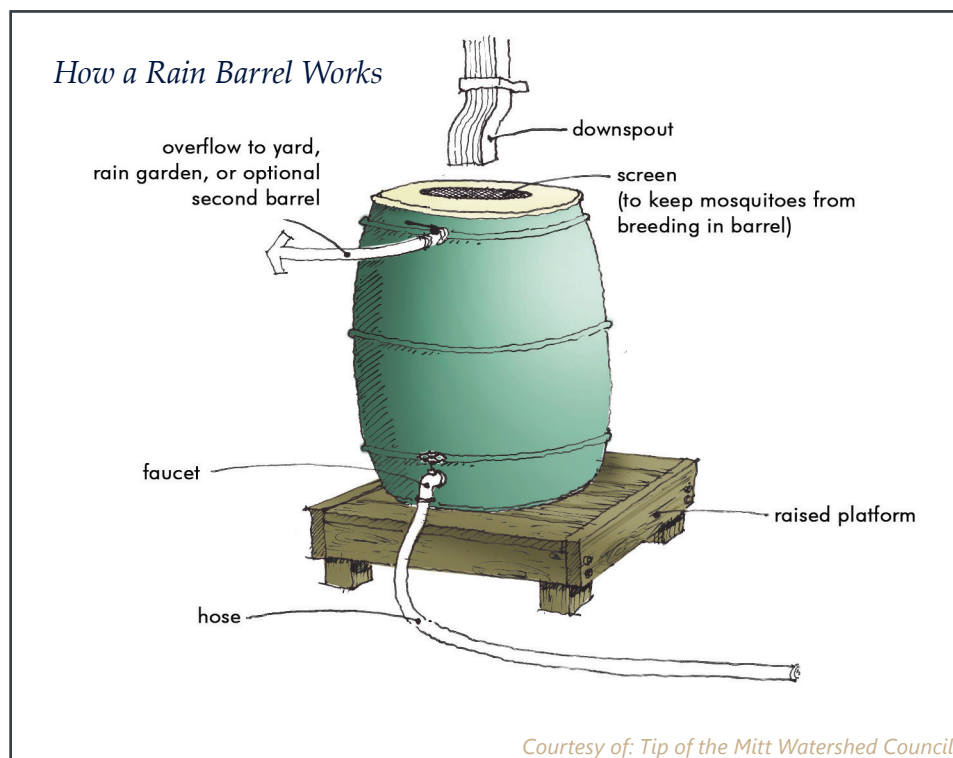
Rain barrels are an affordable and easy way to reduce the amount of stormwater runoff from your property while saving money on your water bill.

For every inch of rain that falls on 1 sq ft of roof over half a gallon of rainwater can be harvested. That means a 10'x10' shed will yield 60 gallons of rainwater during a 1" rain event. A 2,000 sq ft home would generate over 1,200 gallons from one inch of rain. During the summer months, around 40% of total household water usage is for watering lawns and gardens. Rain water doesn't contain chlorine, lime, or calcium which makes it ideal for watering your flowers and vegetable garden or washing your car or windows.

A typical rain barrel will vary in size from 45-55 gallons and can range in cost from \$20 for a do-it-yourself kit to upwards of \$200 for a premium system. The Fox River Conservation Foundation sells rain barrels through their website year-round made of recycled food-grade plastic and can be ordered online and delivered to your home for \$65 plus tax.

If a rain barrel is more commitment than you're interested in, disconnecting downspouts can have many of the same benefits.

If the gutters and downspouts on your home drain across paved surfaces or below ground, consider disconnecting or redirecting them across lawn or garden areas to make a positive impact for stormwater management. Disconnecting downspouts from the storm sewer system and redirecting them to lawns, gardens, or rain barrels will reduce the amount of runoff that enters a storm drain and ultimately flows into nearby lakes, streams, and rivers.



### Key Elements of a Rain Barrel System Include:

- ⚡ A 45 - 55 gallon drum
- ⚡ A raised platform to aid in gravity flow and allow for a bucket to be placed under the spigot.
- ⚡ A wire screen over the opening to keep mosquitoes from breeding in the open barrel.
- ⚡ A faucet & hose at the bottom of the barrel to use the water
- ⚡ An overflow spout at the top of the barrel to direct runoff to your yard.

Figure P: How a Rain Barrel Works (Top)

Figure Q: Key Elements of a Rain Barrel System (Bottom)



# References

# 05

The Conservation Foundation: <http://www.theconservationfoundation.org/index.php>

Kendall County GIS. (2018). Geographic Information Systems. Retrieved from CAMA Sales Viewer: [http://gis.co.kendall.il.us/GISViewer\\_Gallery.aspx](http://gis.co.kendall.il.us/GISViewer_Gallery.aspx)

Landmarks Illinois. (2018). Landmarks Illinois. Retrieved from <http://www.landmarks.org/>

Martucci, B. (2015). Buying an Old House? – Common Problems, Hidden Costs & Benefits. Retrieved from Money Crashers: <https://www.moneycrashers.com/buying-old-house-problems-costs-benefits/>

Old House Guy LLC. (2018). Old House Guy. Retrieved from <https://www.oldhouseguy.com/>

Rain Garden Plant List & Requirements. (2018). Retrieved from Illinois Department of Natural Resources: <https://www.dnr.illinois.gov/education/Pages/PlantListRainGarden.aspx>

Secretary of the Interior. (2017). Standards for the Treatment of Historic Properties with Guidelines for preserving, rehabilitating, restoring, and reconstructing historic buildings. Secretary of the Interior.

Sidler, S. (2013, May 20). Preventative Maintenance Checklist. Retrieved from The Craftsman Blog with Scott Sidler: <https://thecraftsmanblog.com/preventative-maintenance-checklist/>

Tip of the Mitt Watershed Council. (2018). A Homeowner's Guide to Watershed Protection. Tip of the Mitt Watershed Council.

Virginia Department of Environmental Quality. (2011). Stormwater Design Specification No. 7 Permeable Pavement.