

NATIVE LANDSCAPING

A SUBDIVISION ASSOCIATION GUIDE FOR CONVERTING TURF TO PRAIRIE



COVER IMAGE: JOHN GRIMM

Native Landscaping: A Subdivision Association Guide for Converting Turf to Prairie is intended to help subdivision associations and interested St. Louis County residents understand what native landscaping is and how it can be used in common areas. The content of this document is for reference purposes only. It is advised that an expert be consulted before undertaking any native landscaping project.

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*Native Landscaping:
A Subdivision Association Guide for
Converting Turf to Prairie*

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INTRODUCTION

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BACKGROUND

In St. Louis County, subdivision associations and their boards of trustees are responsible for maintaining over 11,000 acres of common ground—land set aside for open space, stormwater facilities, retention ponds and recreational areas for residents.

Subdivision associations regularly invest a majority of their annual budget toward the maintenance of common areas. A large portion of common area is often planted with turf and requires regular mowing and maintenance.

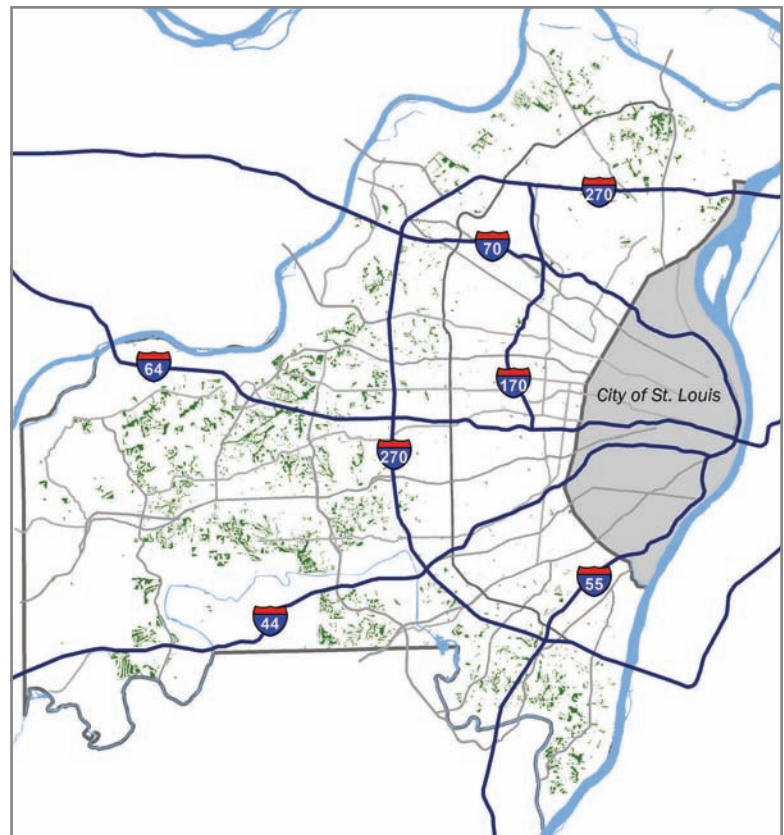
As land stewards, subdivision associations have an opportunity to create a more cost-efficient and sustainable landscape. By transitioning to native landscaping practices that work with nature, subdivision associations can realize these benefits:

- Reduce maintenance costs over the long-term
- Create a vibrant urban ecosystem and promote biodiversity
- Differentiate the subdivision as being progressive and sustainable
- Create a healthier environment for residents by reducing use of pesticides, improving water quality and maximizing the environmental function of landscapes

WHAT IS THIS GUIDE?

This guide is intended for subdivision associations and their boards of trustees who are interested in reducing their maintenance costs, creating vibrant urban ecosystems, making their subdivision sustainable, and creating a healthier environment for residents by using native landscaping.

The guide gives an overview of what native landscaping is, where and how it can be used, and how it can benefit subdivisions and their residents. The guide also outlines a



St. Louis County

There are approximately 11,000 acres of subdivision common ground in St. Louis County

step-by-step process for subdivision associations to follow in creating and implementing a native landscaping plan.

The guide focuses on replacing existing turf areas with native prairie plants—an effective and proven strategy for lowering common ground maintenance costs. However, this option is not the only one available to subdivision associations. Other options for using native plants include native ground covers, native plants in mulched beds, wetlands and woodland restoration. Refer to the contacts on page 31 for more information on these other native options.

Whether a subdivision association decides to do the work themselves with the help of volunteers or use a professional contractor, this guide can serve as a resource in undertaking a native landscaping project.

HOW TO USE THIS GUIDE

First, take the self-assessment below. It will help you to start thinking about the characteristics of your subdivision, and if using native landscaping in common areas may be feasible for your subdivision association

Go native—page 11

The second section includes basic information about native landscaping. Learn how it can be used on subdivision common ground and how it can lower maintenance costs, create attractive neighborhoods, and support healthy ecosystems.

Plan—page 17

The third section outlines a step-by-step process for creating and implementing a native landscape plan along with case studies of completed projects in St. Louis County.

For subdivision associations that choose to hire a contractor, we also provide information and tips for developing a contract and selecting the best contractor.

This section also contains a sample project schedule for prairie reconstruction. It gives you an idea of what to expect and what to do for the first four years the prairie is growing.

Resources—page 29

The last section contains important resources that will help if you decide to undertake a native landscaping project, including contact information for native landscaping groups, sample native seed mixes and a list of local native landscaping case studies.

SELF-ASSESSMENT

Use these questions to start thinking about the characteristics of your subdivision, and if using native landscaping in common areas may be feasible.

How many homes are in your subdivision?	10 - 50	51 - 100	101 - 250	251 - 500	> 501
How many acres of common ground do you maintain?	< 1	2 - 5	6 - 10	11 - 15	> 16
What types of common area do you maintain?	Turf	Woods	Detention Basin	Retention Pond	Other
What percentage of your annual budget is spent on common ground maintenance?	< 20	21-40	41-60	61-80	> 81
Are there concerns about the maintenance or appearance of common grounds?	Yes	No			
Is your subdivision association well organized?	Yes	No			

GO NATIVE

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NATIVE LANDSCAPING

The goal of native landscaping is to create an attractive landscape that is in balance with the local climate and requires minimal resources. Using native landscaping helps achieve this goal by creating functional, cost-efficient, attractive and environmentally friendly areas that all residents can enjoy.

Native landscaping involves using plants that adapted to the unique climate of an area. Native plants are hardy and have long root systems which make them low-maintenance and durable.

Before choosing any specific plant species to use, you should speak with an expert who is best equipped to answer your questions. For more information, see page 31.

WHY GO NATIVE?

There are several reasons to consider native landscaping for subdivision common ground. By using native landscaping, subdivision associations can reduce maintenance costs, promote healthy ecosystems and create more attractive neighborhoods.

LOWER MAINTENANCE COSTS

Native plants are a low-maintenance and affordable alternative to other non-native plants.

Many native plants live for several decades and thrive in different light and moisture conditions. Because of their deep root systems, native plants do not need watering.

Because of their adaptation to the local environment, plants require less maintenance and are less prone to destructive insects and diseases. Native plants still require some maintenance, but

substantially less than intensively manicured lawns.

HEALTHY ECOSYSTEMS

Over the decades there has been a dramatic loss of wildlife habitat for creatures including birds, butterflies and insects. Converting landscaped areas into viable habitats can reverse this process. Landscaping with native plants helps restore habitats and provides food, water, shelter and nesting sites for a variety of wildlife species.

ATTRACTIVE NEIGHBORHOODS

Once well-established, native plants look nice for the majority of the year. Having attractive and interesting natural plant areas, like a reconstructed prairie in a neighborhood, encourages interaction between neighbors and nature too.

Additionally, communities that use native plants can set their neighborhood apart for being “green” and progressive. This distinction can be a marketing tool in attracting new residents and investment to the neighborhood, as well as a mark of pride for existing residents.

Native prairies have a mix of tall grasses and flowering plants



GOING NATIVE SAVES MONEY

Replacing turf with native prairie plants makes financial sense for one reason—it costs half as much to maintain a prairie. Although prairie installation takes initial up-front costs, the return on investment is usually met within three to five years.

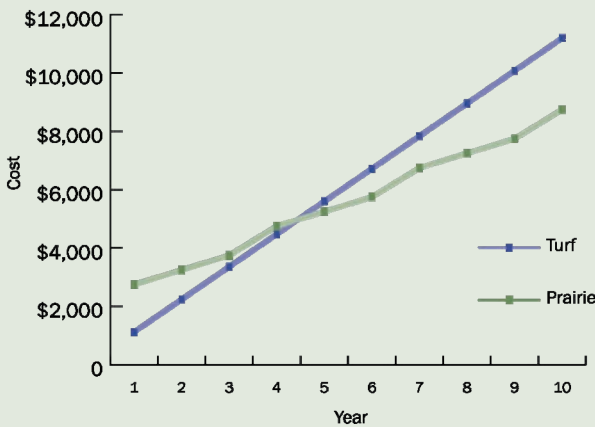
Total savings in maintenance costs can range between 10 and 30 percent over a ten-year period. A larger prairie will require a larger initial investment but will increase savings in the long run.

AVERAGE FIXED COSTS PER ACRE

Annual turf maintenance	\$1,120
New prairie installation	\$2,500
First-year prairie maintenance	\$1,500
Annual prairie maintenance	\$500
Controlled burning	\$1,000

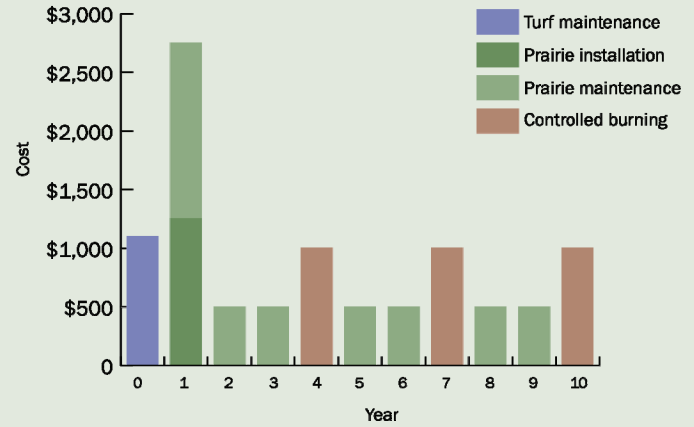
Source: DJM Ecological services

RETURN ON INVESTMENT—1 ACRE PRAIRIE



Return on investment is met in year four when the cumulative costs to maintain turf exceed the costs of prairie installation and maintenance.

COST BREAKDOWN—1 ACRE PRAIRIE



After the initial investment in year one to install the new prairie, annual maintenance costs are much lower than the previous turf maintenance costs.

Note: costs are calculated assuming 50 percent cost-share from the Missouri Department of Conservation. See page 21 for more information.

FROM TURF TO PRAIRIE

Subdivision associations can decide to use native landscaping anywhere in subdivision common ground. However, this guide focuses on the use of native landscaping in the two most common areas subdivision associations maintain: turf lawns and detention basins.

Problem

Most subdivisions have areas of turf they maintain in passive lawns or detention basins. Turf can be high-maintenance because it needs regular watering, fertilizing and mowing. Maintaining turf is expensive,

taking up a large amount of a subdivision’s annual budget.

Most detention basins have a shallow concrete or rock channel surrounded by turf grass side-slopes. They provide stormwater storage but do little to treat polluted stormwater that is released down stream.

Solution

Replacing turf with a reconstructed native prairie is a more cost-efficient and environmentally sensitive solution.

Most prairie plants do best in sunny areas. Prairies are made up of tall grasses and wild

flowers ranging between two and six feet tall. They bloom often between April and November and change each year as they mature.

For detention basins, native landscaping may also entail planting native wetland plants in areas where water flows or stands during storm events.

It takes three to four years for a prairie to reach maturity. For the first few years, the majority of the growth happens in the root systems under ground. The prairie may appear to be full of weeds, and not very attractive. It is important during this time to let residents know through educational materials and signs that a prairie is on the way. See page 25-28 for more explanation on what you can expect as your native prairie matures.

Benefits

There are many benefits from replacing turf with a reconstructed native prairie including:

- Reducing costs
- Lowering maintenance needs
- Improving visual appeal
- Promoting wild life habitat
- Improving water quality

Lower costs

Costs of prairie installation vary depending on the size of the site, the types of seed and plants you choose, and the amount of volunteers and funding available.

Although there are initial upfront costs to replace existing turf with a native prairie, these costs are generally recouped within two to four years since significantly less maintenance is required. For more information on cost savings, see the green box on the previous page.

Prairies still require some maintenance. This includes mowing, burning, seed collection, planting and weed management. For more

information on controlled burning, see the green box on page 28.

Healthy ecosystems

Reconstructed prairies are an opportunity to protect the environment and promote environmental stewardship. They provide a habitat for wildlife like insects, butterflies and birds. Reconstructed prairies also improve water quality by filtering out pollutants from stormwater runoff.

Attractive Neighborhoods

One common misconception with prairies is that they are unattractive. While they do look different than a more traditional, manicured landscape, they are still very attractive, blooming from April to November. There are several things subdivision associations can do to ensure reconstructed prairies are well-accepted by residents:

- Include signage—let people know what is growing.
- Maintain a border—having a defined edge such as a narrow band of turf or a fence makes it look intentional.
- Convert small, manageable areas to prairie first. Retain some turf for residents to enjoy.

A narrow mowed path creates a defined edge for this reconstructed prairie



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PLAN

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PLANNING PROCESS

When it comes to undertaking a native landscaping project, there are two paths from which subdivision associations may choose: do the work themselves or hire a contractor.

This section outlines a step-by-step process subdivision associations can take in identifying their needs, and creating and implementing a native landscaping plan whether they choose to do the work themselves or hire a contractor.

ORGANIZE

Organization is key to a successful project. The subdivision association may want to form a landscape committee or choose a subdivision trustee to be the contact person for all communications and business related to the project.

In most cases, subdivisions border other subdivisions. It may be beneficial to join forces in addressing common landscape issues. Working with neighboring subdivisions is a good way to share resources, volunteers, project costs, and be more competitive for grants.

EVALUATE THE SITE

The site may have limitations due to its soil characteristics, slope or location. Evaluating the site helps avoid problems later.

Map the area

Maps help you identify where to locate certain features. The map should include what's on the site such as roads, sidewalks, trees, streams, ponds, hills, utilities and any other special features.

Survey vegetation

Take a look at what is growing nearby. Is there evidence that a prairie existed on the site in the past? One of the local native landscaping groups may be able to help you identify what is growing on your site.

If you find existing native prairie grasses and flowering plants, you can collect the seeds and use them in your project. If the site is covered with shrubs, vines or weeds you will likely have to remove the invasive species before planting a native prairie.

Know your soil

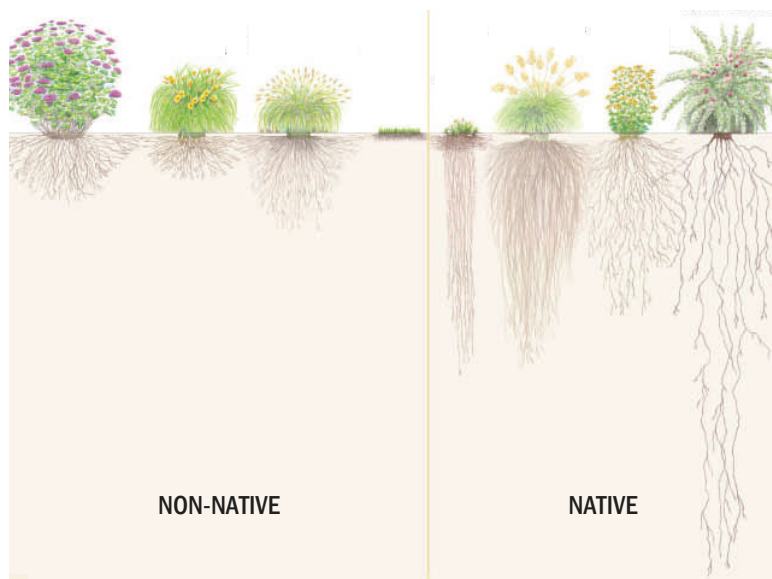
Getting to know your soil type is important for making good seed selection and planting decisions. The University of Missouri Extension Service offers inexpensive soil testing kits along with guidance on how to use them.

Type

Soil types fit into three basic categories:

- Sand—gritty and doesn't hold water
- Silt—flour like texture, balanced drainage
- Clay—smooth texture and doesn't drain well

Native plants have deep root systems which makes them hardy and durable





CASE STUDY PRAIRIE RECONSTRUCTION

- Erb Crossing Subdivision
- St. Louis County, Missouri
- 0.25 acres of reconstructed prairie

In early 2009, the board of trustees started a project to reconstruct a native prairie on the subdivision's detention basin.

The reconstructed prairie is two years old and is becoming well-established. It has been well-received by residents. Trustees maintain an attractive appearance by keeping a four-foot turf border on three sides, planting trees and shrubs along the edges and providing signage.

The initial cost for the prairie reconstruction was \$1,250. Construction was funded in part by a cost-share program from the Missouri Department of Conservation. The subdivision relied heavily on volunteers to prepare the site, do the planting and perform annual maintenance.

After installing the prairie, the subdivision association cut its mowing costs in half.

Moisture

Knowing your soil's moisture will help you select the most appropriate species for your site. In terms of moisture, soils are characterized as

- Dry—south- or west-facing slopes with shallow or rocky soils; well-drained
- Mesic—gently sloped land; average drainage
- Wet—flat, low ground; poor drainage

pH

The pH of your soil is also important. This tells you if you have acidic or alkaline soil. Most plants do well in soils with a neutral pH, but you can select plants that are adapted to soils with different pH levels.

ESTIMATE YOUR BUDGET

How much are you willing to spend? Figuring a budget before hand will help determine the size and scope of the project.

Using native landscaping will save money in the long run, but it requires an initial investment of time and money. For a better idea of costs, see the green box on page 14.

If you have budget constraints, here are some ideas to tailor your project to fit your budget:

- Start on a small section and expand it as you can afford
- Start with fewer species. Plant the grasses that grow easily first, and add more species as resources allow
- Use volunteers
- Reach out to local nurseries—they may be willing to donate or discount trees, plants and other materials.

RESEARCH FINANCING

There are several financing options available to subdivision associations who wish to use native landscaping on their common ground including special assessments and grants.

Special assessments

Special assessments are levied on properties in addition to the annual assessment. Special assessments are determined by trust indentures and vary between subdivisions. Check your indentures to see what limits and requirements it sets for special assessments.

Grants

There are a variety of grants available to subdivision associations who want to undertake a native landscaping project. Below we highlight four that are most applicable to subdivision associations in St. Louis County.

Missouri Department of Conservation

The Missouri Department of Conservation (MDC) offers two programs for which subdivision associations may be qualified.

The cost-share program reimburses subdivisions for work they do to restore ecosystems and remove invasive species. Subdivision associations can be reimbursed for 50 percent of the project cost including plants, materials and labor.

MDC also offers a competitive community stewardship grant program. Funding up to \$7,500 is available for habitat restoration or enhancement, and exotic species control. Funds are awarded annually.

Missouri American Water

Missouri American Water’s environmental grants support innovative, community-based environmental projects that improve, restore

and protect watersheds and community water supplies. The maximum grant amount is \$10,000, and projects must be located within the Missouri American Water service area.

Wild Ones St. Louis

Wild Ones St. Louis, an advocacy group for native plants, offers a native landscaping grant for stewardship projects. Grants go to the design, establishment and maintenance of a native plant community, trails or wetland areas with an emphasis on education. Award amounts range between \$300 and \$500.

GET RESIDENT INPUT

Support from residents is important to successfully implementing a native landscaping project. Engage residents by holding public meetings, using surveys, posting information to the subdivision

Native prairie plants provide a natural buffer for this retention pond



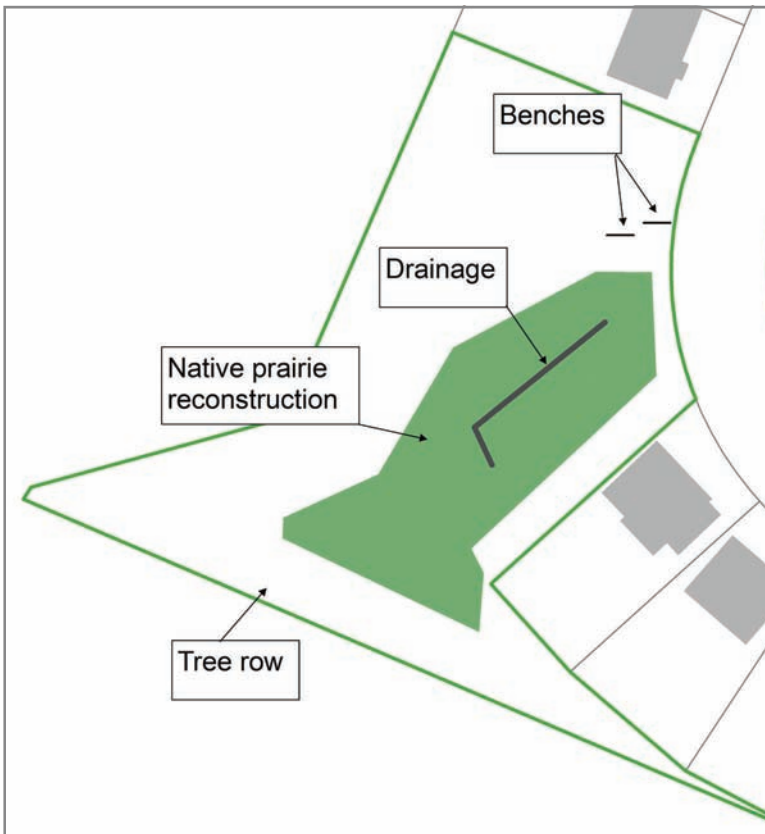
association website or sending out information through the mail. Ask residents what they think about their common areas and what they would like to see there in the future.

Education is essential to convincing residents that native landscaping is a potential solution. Share information with residents letting them know that native landscaping saves money in the long run, is attractive and is better for the environment. Keep residents informed by giving them regular updates as the project develops.

DEVELOP A CONCEPTUAL PLAN

Having a conceptual landscape plan will ensure that the changes made to the landscape are in accordance with what residents and the subdivision association decided.

A conceptual plan map identifies features of the site and native planting areas



St. Louis County

Landscaping plans may vary in their complexity, but generally contain these three sections:

- Goals
- Map
- Implementation

Goals

Decide what residents want to see and what is feasible. Goals include reducing maintenance costs, making the landscape more aesthetically pleasing, educating residents and creating viable ecosystems. Set reasonable goals that are achievable.

Map

Include on a to-scale map what's on the site such as roads, sidewalks, trees, streams, ponds, hills, utilities and any other special features. Note soil types, slopes and other special considerations that will affect the plan.

Identify areas you will be planting, what plant types you will be planting there, and any other features that will be added such as benches and trails.

Experts from local native landscaping groups can help you match your ideas to solutions that can work on your site. Work with them to identify areas to change and what plant species to use.

After you have a draft map prepared, share it with residents and take in their feedback. Address residents' concerns and make adjustments as necessary.

Implementation

Decide if the project will be done in multiple phases or a single phase. Make an implementation calendar and set milestones that you think you can achieve. If you fail to meet a milestone, reevaluate and adjust the schedule as necessary.

SELL THE PLAN

After you produce a conceptual landscaping plan, you need to sell it to residents.

For the meeting you may want to create promotional materials, meeting invitations, posters for presentations, maps and other materials.

You should make a presentation to residents at an open meeting. The presentation should cover the need for the landscaping plan and its recommendations. You should emphasize the cost savings to residents in the long term. Use pictures from comparable local projects that are complete. Use the meeting to get residents excited about the project, and let them know how they can help get it done.

IMPLEMENT & MONITOR

Once consensus is reached on the landscaping plan, it is time for implementation. You may decide to use a contractor or to do the work yourself. If you want to take on the project yourself, refer to resources section on page 31 to see a list of organizations who can help you through the process.

Document the project by taking lots of pictures. Be sure to take some from the same spot year after year to show the growth and changes over time.

Let others know about the work you are doing. Reach out to local media outlets to let others know how your neighborhood is making efforts to be sustainable.



All photos: Judi Brooks

CASE STUDY RECONSTRUCTED PRAIRIE

- Dougherty Ridge Subdivision
- Des Peres, Missouri
- 2 acres of reconstructed prairies

In 2006, the board of trustees started a project to improve two failed detention basins. They chose to use native plants in the detention basins and in three other reconstructed prairies in the subdivision.

The reconstructed prairies have just met maturation, and are well-received by residents. To maintain an attractive appearance, a mowed turf border is kept around the different sites. Educational signage and benches encourage residents to interact with nature.

The initial cost for the prairie reconstruction was \$2,350. Construction was funded in part by a special assessment and a cost-share program from the Missouri Department of Conservation. The subdivision used volunteers at various stages to draft engineering plans, donate plants and materials, clean up the sites and do the planting.

Annual maintenance is approximately \$900 and includes mowing and reseeding. The subdivision association now spends approximately \$5,000 less a year on landscaping because of mowing less and a newly negotiated maintenance contract.



Native plants improve water quality by slowing stormwater runoff and filtering out pollutants

USING A CONTRACTOR

Depending on the size and complexity of the project, you may wish to use a contractor. Benefits of using a contractor include:

- Professional expertise
- Bulk purchase savings
- No equipment to buy or maintain
- Improved plant survival

The contractor's responsibilities vary from site to site, depending on what work is needed. Specify in the contract the activities the contractor will perform and what the subdivision association will be responsible for. Typically, a contractor will be responsible for:

- Creating a project plan
- Preparing the site
- Selecting and purchasing seeds and plants
- Planting
- Initial maintenance

DEVELOPING THE CONTRACT

There are two main parts of a contract: the specifications and the schedule. Specifications are the services the contractor will perform, and the schedule is when he or she will perform them. The specifications section often contains performance criteria that details what type of performance the subdivision association expects.

SELECTING PROSPECTIVE CONTRACTORS

The Missouri Department of Conservation can help you by providing a list of contractors who have experience with native landscaping.

Once you have a list of contractors, research them. These are some tips for reviewing potential contractors:

- Ask for references
- Visit project sites that the contractor has completed

- Require a consultation at your site
- Get bids in writing
- Inspect work the contractor is doing

BIDDING THE CONTRACT

Once you have developed a proposal containing all appropriate specifications and identified potential contractors, it's time to send them a request for a bid. A request for a bid might include a cover letter accompanying a contract that specifies the due date for proposals, where to send them, and who to contact if they have questions. You should provide background information about the subdivision association and any other necessary information for developing a bid.

SELECTING THE BEST CONTRACTOR

Prior to the review of bids, develop a checklist to rate the proposals. Items to consider should include:

- References
- Costs
- Past projects

MONITORING

If you decide to use a contractor for all or part of the work on your project, you should have an understanding of what they will be doing, and monitor their activities.

This guide contains basic information on the steps needed to create a successful native landscape. Having an understanding of these steps will help you judge how well your contractor is doing.

You should keep a written record of your contractor's activities including dates. This will ensure that the project stays on schedule and that the contractor is held accountable.

You can also request that the contractor submit regular progress reports. Progress

can be documented in written form, or through presentations given during regular associations meetings.

PRAIRIE RECONSTRUCTION SCHEDULE

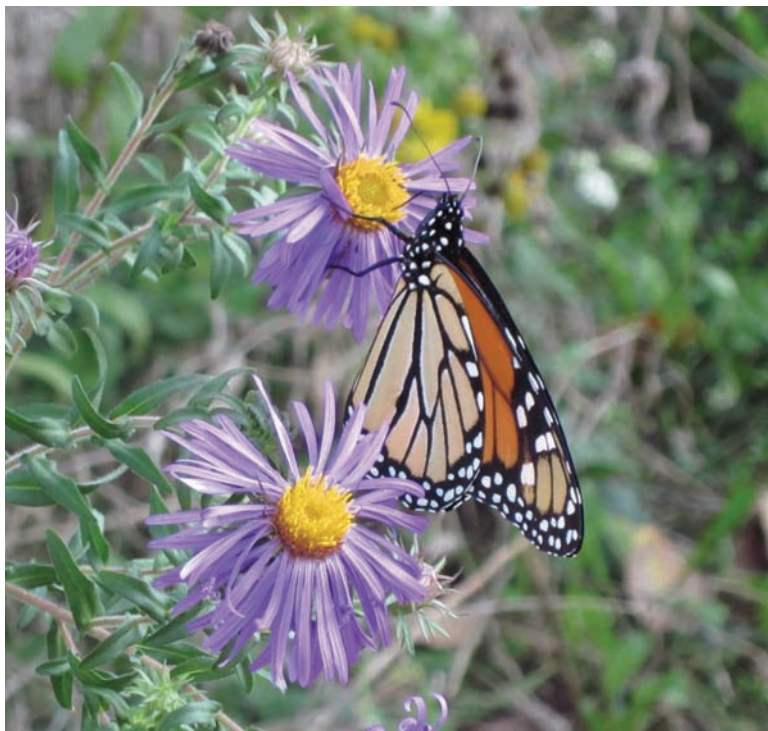
To get a better idea of what steps are involved during the first few years of a native landscaping project, we explain what you can expect to see on the site and what activities need to be done for the first four years.

YEAR ONE

What to expect

Native plants won't look like much after the first growing season. Most of the growth is happening underground, and plants will only have one or two small leaves above ground. The site may look messy, and have a lot of weeds.

Native plants attract a variety of wildlife, including butterflies



What to do

Seed selection

Try to plant a wide variety of species. A thriving prairie will include enough different grasses and flowers for good bloom throughout the growing season, and a thick growth that won't allow weeds to grow. The greater the diversity, the greater the long-term success of your project.

Using the right amount of seed is important. A lighter rate can result in plants being scattered leaving bare ground for weeds to grow. A heavier rate can result in prairie seedlings crowding each other out.

Standard prairie mixes are 40 to 50 percent grasses and 50 to 60 percent flowers. A mix with less than 40 percent flowers results in a prairie dominated by grasses. Flowers are more expensive and shouldn't make up more than 70 percent of any mixture.

Refer to your map to determine the size of your site. In general, you need 5 to 10 pounds of pure live seed per acre. For small sites, use 1 to 5 ounces mixed seed per 200 to 300 square feet.

A good mix of grasses and flowers is essential to a healthy native prairie



John Grimm

Site preparation

Existing turf, weeds and invasive species on the site must be removed. This will increase the germination rate of seeds and the success of the planting.

The herbicide glyphosate, also known as Roundup, is most often used to kill off existing vegetation. Apply once or twice in late summer and fall for early winter seed sowing. When using herbicides, always wear eye and skin protection.

Do not till or plow the site after the vegetation is killed. Disturbing the soil brings up weeds. Instead, mow vegetation to a few inches high and plant directly on the dead vegetation. Dead vegetation helps hold seeds in place and prevent erosion.

For smaller sites, there are alternatives to using Roundup. These include laying down plastic or mulch to kill existing vegetation, or by plowing the site multiple times.

A land disturbance permit is required from St. Louis County when plowing or tilling an area more than 12,000 square feet or when cutting or filling more than 30 cubic yards of soil. Silt fencing or other temporary control measures should be used as needed to prevent erosion of exposed soil.

Planting

Early winter is a good time to sow seeds since most native wildflower seeds germinate better after exposure to cold temperatures. Sow seed in November or December, if possible, or January at the latest.

There are generally two ways to plant seeds: by hand or with a no-till drill. Sowing by hand is useful for sites smaller than an acre. For larger sites, a no-till drill is more efficient. No-till drills plant seeds in rows and cause minimal soil disturbance which results in less weed growth.

Maintenance

Prairie seedlings begin to grow in April. Seedlings can be difficult to see because of their small size and competition from weeds.

Control weeds by keeping them mowed to 6 to 12 inches throughout the first growing season. Most prairie seedlings grow less than 6 inches during the first growing season and will not be harmed by mowing. Mowing weeds on a regular basis in the first year is essential for having successful growth.

YEAR TWO

What to expect

Things start to take shape during the second growing season. Some short-lived prairie perennials will grow and might even bloom. Annual weeds should be nearly gone.

What to do

If weeds are a problem mow them at 12 inches since prairie plants are taller in the second year. If necessary, use spot applications of Roundup to control weeds. In the winter of year two you may want to over seed. This means planting additional seed over what was planted in the first year. This will ensure thick and healthy growth of prairie grasses and wildflowers.

SAMPLE PROJECT SCHEDULE

	PLANNING				YEAR 1			YEAR 2			YEAR 3	
	Summer	Fall	Winter	Spring	Summer	Fall	Winter	Spring	Summer	Fall	Winter	Spring
PLANNING PROCESS												
Organize	x											
Evaluate the site		x										
Estimate your budget		x										
Research financing		x										
Get resident input			x									
Develop a conceptual plan			x									
Sell the plan				x								
Select a contractor				x								
PROJECT EXECUTION												
Apply herbicide to kill unwanted vegetation					x	x						
Mix and sow seed							x					
Seed germinates								x				
Mow weeds								x	x	x		
Spot spray herbicide if needed								x	x	x	x	x
Reseed to ensure thick growth										x		
Conduct a controlled burn*												x

* A controlled burn is optional. See page 28 for more details

YEAR THREE

What to expect

The prairie is finally starting to mature. Short-lived prairie perennials that were prolific in the first few years will be joined by other grasses and wildflowers.

What to do

You should not need to mow during the third year. Spot spray herbicide if needed. In year three you may want to consider a controlled burn. For more information, see the green box below.

YEAR FOUR & AFTER

What to expect

More conservative species will start to hold their own after about six years. Some prairie plants might take as long as ten years or more to bloom.

What to do

Continue controlled burnings in sections or mow each year. Sow more seed or plant seedlings to maintain or increase species diversity. You should continue to monitor for weeds, and eliminate them before they become a widespread problem.

CONTROLLED BURNING

Prairies are fire-dependent ecosystems. In nature, they burn regularly. Burning helps kill invasive species, makes plants grow taller and produces more flowers and seed. A burn also extends the growing season since blackened soil warms sooner in the spring. Warmer soil also favors prairie plants over invasive weeds.

Do not attempt a controlled burn yourself—there are professionals that will do it for you. A contractor will develop a burn plan and obtain all permits from the St. Louis County Health Department and the applicable local fire protection district. In St. Louis County, controlled burning is only allowed from September 15 through April 14. Be sure to notify residents when a burn will take place, and respond to any concerns they have.

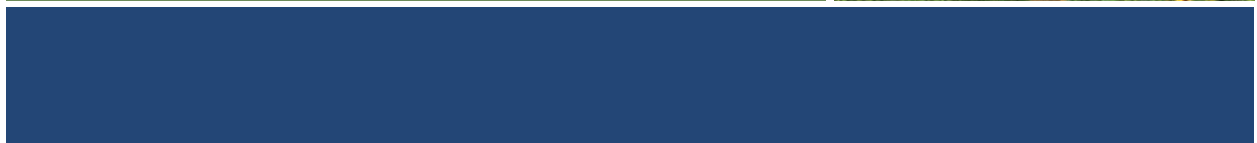
While burning is the preferred maintenance tool for prairies, it is not the only one. The negative effects on air quality from burning should be considered before deciding to conduct a burn. See page 31 for who to contact for more information on controlled burnings.



Fermi National Accelerator Laboratory

RESOURCES

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CONTACTS

WHO	CONTACT FOR	WEBSITE	CONTACT
Missouri Department of Conservation	<ul style="list-style-type: none"> ▪ Community stewardship grant program ▪ Cost-share program ▪ Grow Native program ▪ List of contractors familiar with native landscaping ▪ Native landscaping guides and manuals ▪ Project planning and technical assistance ▪ Prescribed fire training 	http://mdc.mo.gov http://grownative.org	Perry Eckhardt 314-301-1506
			Tracy Boaz 314-452-3986
			Erin Shank 314-301-1500
			Barbara Fairchild 573-522-4115
Missouri Prairie Foundation	<ul style="list-style-type: none"> ▪ Technical information ▪ Potential funding ▪ Grant partner 	www.moprairie.org	Carol Davit info@moprairie.com
Shaw Nature Reserve	<ul style="list-style-type: none"> ▪ Guides and manuals ▪ Native landscaping guides and manuals ▪ Technical assistance 	www.shawnature.org/nativeland/default.aspx	Scott Woodbury 636-451-3512
St. Louis County Department of Planning	<ul style="list-style-type: none"> ▪ Help with planning meetings and public outreach ▪ Project planning assistance and resources 	www.stlouisco.com/YourGovernment/CountyDepartments/Planning	Louis Clayton 314-615-2529
St. Louis County Health Department—Environmental Protection Division	<ul style="list-style-type: none"> ▪ Compliance assistance with Missouri Open Burning Regulations, proper notifications and permits ▪ Pesticide use and disposal options 	www.stlouisco.com/YourGovernment/CountyDepartments/Health	Lorrie Gray 314-615-8924
St. Louis County Public Works—Code Enforcement Division	<ul style="list-style-type: none"> ▪ Land disturbance permits 	www.stlouisco.com/PropertyandRoads/NeighborhoodServices	314-615-5485
St. Louis Metropolitan Sewer District (MSD)	<ul style="list-style-type: none"> ▪ Stormwater management, detention and water quality questions 	www.stlmsd.com	John Grimm 314-768-2743
U.S. Environmental Protection Agency	<ul style="list-style-type: none"> ▪ Case studies and awards ▪ Guides and manuals ▪ Technical assistance 	www.epa.gov/greenacres	Danielle Green green.danielle@epa.gov
Wild Ones St. Louis	<ul style="list-style-type: none"> ▪ Native landscaping events ▪ Native landscaping grant ▪ Technical resources 	www.for-wild.org/chapters/stlouis	Scott Woodbury 636-451-3512

CASE STUDIES

SUBDIVISION	LOCATION	RESIDENTS	PROJECT DESCRIPTION	CONTRACTOR	START DATE	STATUS
Baxter Lakes	Chesterfield, Missouri	309	<ul style="list-style-type: none"> Removed 2-3 acres of invasive Honeysuckle Planted 40 trees and 140 shrubs Regraded pond shoreline and planted native plant buffer Installed a raingarden 	DJM Ecological Services	2009	In progress
Dietrich Place Villas	St. Louis County, Missouri	17	<ul style="list-style-type: none"> Two reconstructed prairies on stormwater detention basins Installed two small rain gardens 	Select Tree Service	2007	Complete
Dougherty Ridge	Des Peres, Missouri	172	<ul style="list-style-type: none"> Reconstructed prairies on four different sites Replaced two failing detention basins and replanted them with native plants Planted 156 trees and shrubs 	Joe Eise Landscaping	2007	Complete
Erb Crossing	St. Louis County, Missouri	18	<ul style="list-style-type: none"> Reconstructed prairie on a stormwater detention basin Planted over 80 trees and shrubs 	DJM Ecological Services	2009	Complete
Hawkins Glen	St. Louis County, Missouri	45	<ul style="list-style-type: none"> Reconstructed prairie on a stormwater detention basin. 	DJM Ecological Services	2009	Complete

PROJECT SIZE (ACRES)	COST	MDC COST SHARE	ACTUAL COST	ANNUAL MAINTENANCE	COST SAVINGS	NOTES
N/A	\$6,385	50%	\$3,193	\$1,500-\$2,000	Cut mowing costs in half	<ul style="list-style-type: none"> Sold project with cost savings and education Coordinated efforts with a neighboring subdivision Has brought residents together Reinvested cost savings into the project
1.5–2	\$7,200	75%	\$1,800	The first 3 years are covered by the contractor	\$1,500 per year	<ul style="list-style-type: none"> Motivations to save money and manage stormwater. Created public access by installing benches on the site.
1-2	\$4,700	50%	\$2,350	\$900	\$5,000	<ul style="list-style-type: none"> Did site design, planting and maintenance with the help of volunteers Installed educational signs and benches, created a mowed trail \$1,000 special assessment to replace detention basins Planning for a controlled burn in early 2011
0.25	\$2,500	50%	\$1,250	Minimal—Relies on volunteers	Cut mowing costs in half	<ul style="list-style-type: none"> Included signs to inform residents Maintains a 4-foot turf border and shrubs on three sides for visual appeal
0.33	\$3,320	50%	\$1,660	None yet	\$100 per year	<ul style="list-style-type: none"> Restored prairie is bounded by a fence and a trimmed edge. Basin was an eyesore for residents. Aesthetic reasons.

NATIVE SEED MIXES

Below is a sample seed mix for a one-acre prairie. It is adapted from a publication by Shaw Nature Reserve and Grow Native—a joint program between the Missouri Department of Conservation and Department of Agriculture.

SCIENTIFIC NAME	COMMON NAME	WEIGHT PER ACRE	
<i>Andropogon gerardii</i>	Big bluestem	5.5 oz.	GRASSES
<i>Elymus canadensis</i>	Canada wild rye	8 oz.	
<i>Panicum virgatum</i>	Switch grass	3.2 oz.	
<i>Sorghastrum nutans</i>	Indian grass	3 oz.	
<i>Schizachyrium scoparium</i>	Little bluestem	6 oz.	
<i>Carex</i> species (6)	Mixed prairie sedges	3 oz. per species	
<i>Asclepias tuberosa</i>	Butterfly milkweed	8 oz.	FLOWERS
<i>Aster novae-angliae</i>	New England aster	2 oz.	
<i>Baptisia alba</i>	White false indigo	9 oz.	
<i>Coreopsis lanceolata</i>	Lance-leaved coreopsis	2.5 oz.	
<i>Coreopsis tripteris</i>	Tall coreopsis	4 oz.	
<i>Echinacea pallid</i>	Pale purple coneflower	8 oz.	
<i>Eryngium yuccifolium</i>	Rattlesnake master	5 oz.	
<i>Heliopsis helianthoides</i>	False sunflower	4 oz.	
<i>Helianthus occidentalis</i>	Western sunflower	1 oz.	
<i>Lespedeza capitata</i>	Round-head bushclover	4 oz.	
<i>Liatris pycnostachya</i>	Prairie blazing star	6 oz.	
<i>Monarda fistulosa</i>	Wild bergamot	0.5 oz.	
<i>Ratibida pinnata</i>	Gray-headed coneflower	1.5 oz.	
<i>Rudbeckia hirta</i>	Black-eyed-Susan	1 oz.	
<i>Rudbeckia subtomentosa</i>	Sweet coneflower	1 oz.	
<i>Solidago rigida</i>	Stiff goldenrod	1 oz.	
<i>Vernonia arkansana</i>	Arkansas rosinweed	2.5 oz.	
<i>Tradescantia ohiensis</i>	Ohio spiderwort	5 oz.	
TOTAL		6.75 POUNDS PER ACRE	

* On clay soils, steep slopes or weedy areas, the seed mix should be doubled.

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