



A Cooperative Initiative between:



United States Department of Agriculture  
Agricultural Research Service  
The in-house research arm of the U.S. Department of Agriculture

*and*

**NATIONAL TURFGRASS FEDERATION**  
*Advancing Turfgrass Science for Society*

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## *What is Grass Roots?*

*Grass Roots* is a four-year Initiative that focuses on turf – the uses of turf, the management of turf, the benefits of turf, the value of turf. *Grass Roots* will be developed, organized and managed by the U.S. National Arboretum.

## *What is the National Arboretum?*

The U.S. National Arboretum is a 446 acre research and education facility in NE Washington, DC, two miles from the U.S. Capitol. The Arboretum is a part of the Agricultural Research Service, the in-house research arm of USDA. 500,000 people visit the Arboretum annually.

## *Why is the National Arboretum interested in turf?*

Besides informing the public and generating interest, the National Arboretum wants to demonstrate the value of its research, and science in general to the public. In addition, turfgrasses and turf management are often presented as evil and harmful to society and the environment. The National Arboretum intends to interject scientific based information into the discussion concerning turfgrass and its use in the landscape.

## *What are the components of Grass Roots?*

*Grass Roots* consists of the following five components:

- An outdoor interactive exhibit
- Extensive information on the web provide more detailed information to complement the outdoor exhibit
- Workshops, product demonstrations and symposia
- The development of the *National Greenscape Corridor*, a cooperative effort linking the National Mall, Arlington National Cemetery and the National Arboretum
- A tabletop book of 'Personal Grass Roots' stories, i.e. stories from many well-known persons on their early childhood experience with lawn mowing or grounds keeping and how this shaped their future

### *How and when will Grass Roots be initiated?*

The initial phase of *Grass Roots* is the design and construction of the outdoor turfgrass exhibit. Currently, a draft design has been developed by a team including Arboretum staff and turfgrass researchers. This design, along with the messaging (the points that will be discussed and the language used to present those points) has been reviewed by an industry advisory panel. The Arboretum hopes to complete the design process by the summer and start construction this fall.

### *What about the workshops, symposia and web site information portion of Grass Roots?*

Information for the web site has been initiated and will be an ongoing effort, with new information being developed and posted on a regular basis throughout the four-year period. Some of the first information will likely be placed on the National Arboretum web site when the outdoor display construction starts this fall. Potential workshops, demonstration and symposia are being considered and a schedule of 2014 planned events will be available sometime in 2013.

### *Tell me more about the National Greenscape Corridor. How and when will it be implemented?*

The National Greenscape Corridor concept is in the early development stages, with the National Arboretum staff and the turf managers from the National Mall and Arlington National Cemetery meeting recently to discuss common goals and needs. We envision this cooperative effort to include shared educational programs and facilities, along with visitor signage at the three locations highlighting turf uses and needs at each site, as well as how turf provides benefits.

### *When will the tabletop Grass Roots book be available?*

The book is the final phase of *Grass Roots* and will be developed and released sometime within the four-year time frame of the Initiative.

## *How is Grass Roots funded and how much will it cost?*

Almost all the funding for *Grass Roots* will be provided by the turfgrass industry, through both cash donations and product/service in-kind support. We estimate that \$400,000 in cash and in-kind support will need to be raised to design and build the outdoor exhibit, as well as maintain the exhibit for the four-year period.

## *How much funding has been raised to date?*

As of the end of June 2013, about \$140,000 in cash and in-kind support has been pledged by the industry (35% of what is needed). In addition, the exhibit design is being donated by the design firm Rain Underground.

## *Money in the industry is tight, therefore why should we support Grass Roots?*

The turf industry has been clamoring for years that science based information about turfgrass is not presented to the public. This exhibit will clearly change that as this is the first time that a federal government agency, USDA-ARS, will inform the public of the benefits and uses of turfgrass. Also, the Arboretum's facilities are available for functions and events by private companies and organizations, with the Arboretum being the perfect venue to introduce legislators to turf, hold a private party for staff or donors, or training for cooperators and members.

## *How are we assured that the information will be science-based and factual?*

First, the information is has been reviewed by a turfgrass industry advisory panel. Second, and most important, all of the exhibit messages and web site information are being reviewed for scientific accuracy by the C5 division (turfgrass scientists) of the Crop Science Society of America. The Arboretum is going to great lengths to ensure that all information presented is based on sound science. Much of the information posted on the web will also include references to refereed scientific studies.

*I am concerned that if the outdoor exhibit is not well maintained, this will not present a positive image of turf.*

We have that same concern and that is why a portion of the funding will be used to hire a full-time coordinator for *Grass Roots*. The Coordinator position has been developed and announced. The Coordinator will be an employee of the National Turfgrass Federation, Inc. but will have an office along with the other coordinators and curators at the Arboretum.

*What happens to Grass Roots if not enough money is raised to build the outdoor exhibit? Will the National Arboretum supply the funding?*

The National Arboretum is already providing about \$83,000 in staff support and expertise. If the funding pledged is insufficient to construct and install the outdoor exhibit, and considering today's federal government cuts, it is unlikely that the Arboretum will be able to provide additional support to build the outdoor exhibit.

*I would like to pledge, but may need to fulfill my pledge in annual installments over a three or four year period. Is that possible?*

Yes, we will accept pledges over multiple years. We understand that in some instances, it is easier to budget a smaller amount over several years than provide a one-time lump sum. **About \$250,000 are up-front costs that are needed to construct the outdoor exhibit, with the remainder needed for long-term maintenance.**

*Are there giving levels and what is the deadline for giving?*

Yes, we have levels of sponsorship, which can be found in the following pages. We do not have a deadline for giving, as companies and organizations may need to work within their own budget cycle. **However, if \$250,000 is not raised by sometime this summer, the exhibit will not be constructed and the Grass Roots Initiative will expire.**

On the following pages is information on the outdoor turfgrass exhibit design and the National Greenscape Corridor

For more detailed information the messages presented, as well as web site and programming information on Grass Roots visit:

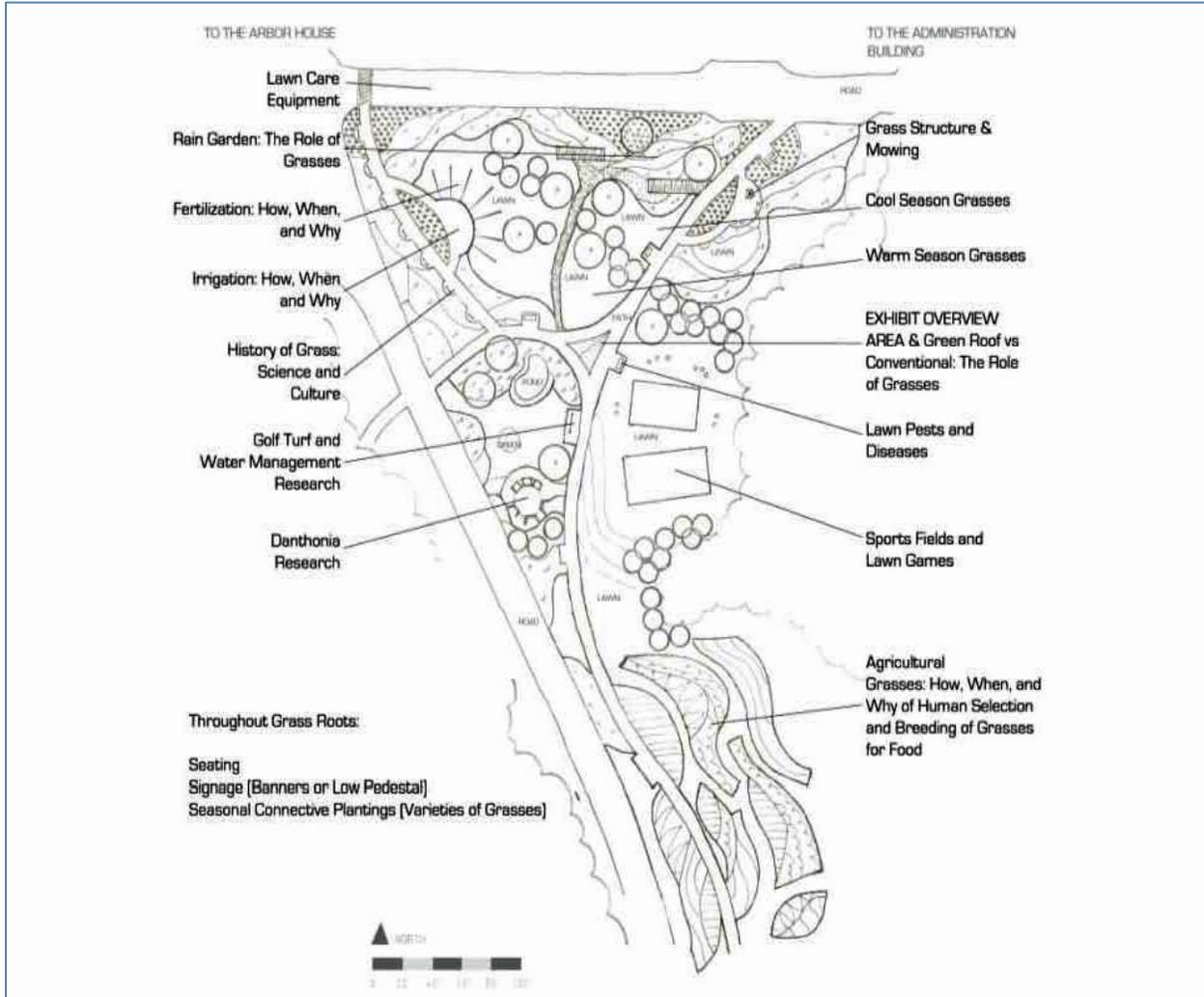
*<http://www.turfresearch.org>*

The outdoor turfgrass exhibit area – a one-acre, highly visible area adjacent to the Administration Building/Visitors Center and auditorium/conference facilities at the National Arboretum - a perfect site!



## Turf Exhibit Stations

1. Green Roof
2. Danthonia
3. Golf—Research, Water Re-use, Maintenance
4. Irrigation
5. Fertilization
6. Maintenance Equipment
7. History of Lawn
8. Sports Fields & Lawn Games
9. Grass Structure (Why we mow!)
10. Warm Season Grasses
11. Cool Season Grasses
12. Rain Garden—with Grasses
13. Turf Diseases and Pests
14. Agricultural Grasses

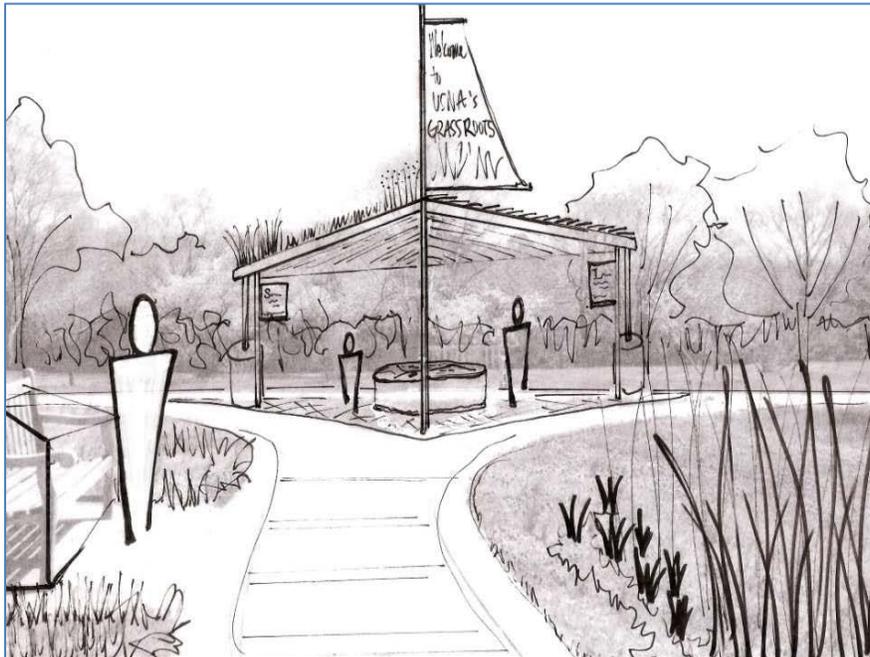


The outdoor turfgrass exhibit layout showing the fourteen stations

## GREEN ROOF



### "The Better Half"



*Purpose:* Centerpiece of the exhibit; Welcome station with overview of the exhibit; sheltered gathering space; demonstrates runoff of Green Roof (turf) vs. Conventional Roof

*Messages presented:* turf absorbs and cleanses water, also provides cooling

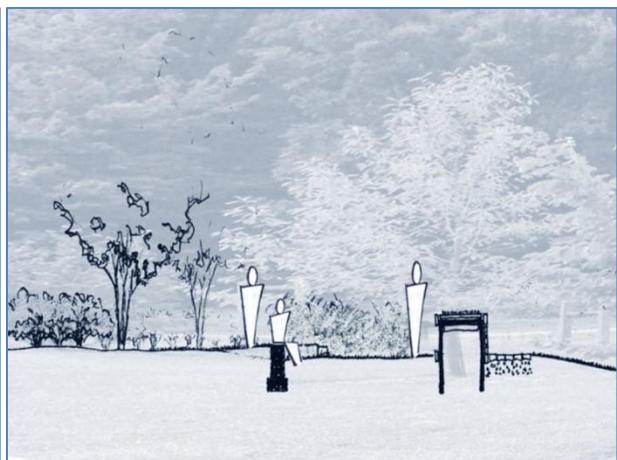
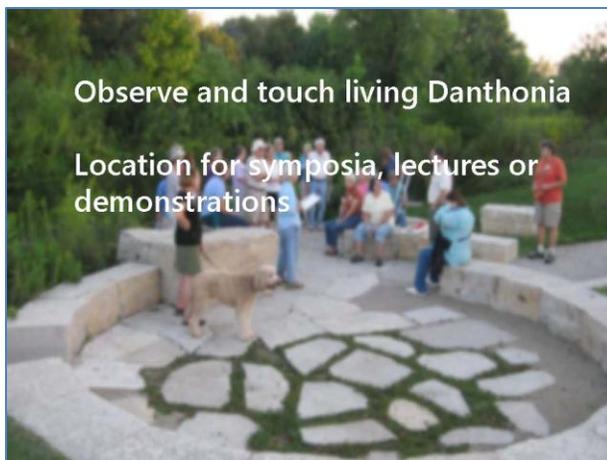
# DANTHONIA



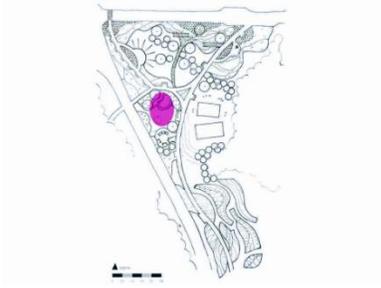
## “Lawns of the Future”

*Purpose:* Inform visitors about improvements in turfgrasses; science plays a major role in improving grasses

*Messages presented:* Turfgrasses in the future will be more drought and pest resistant; USDA and others have played a major role in improving turfgrasses



# GOLF



## "Green Golf"



*Purpose:* Show different parts of the golf course and their uses; demonstrate how a golf course enhances communities; discuss the economic importance of golf

*Messages presented:* Golf is an environmentally friendly enterprise that protects the land, filters water and provides employment and recreation for many people

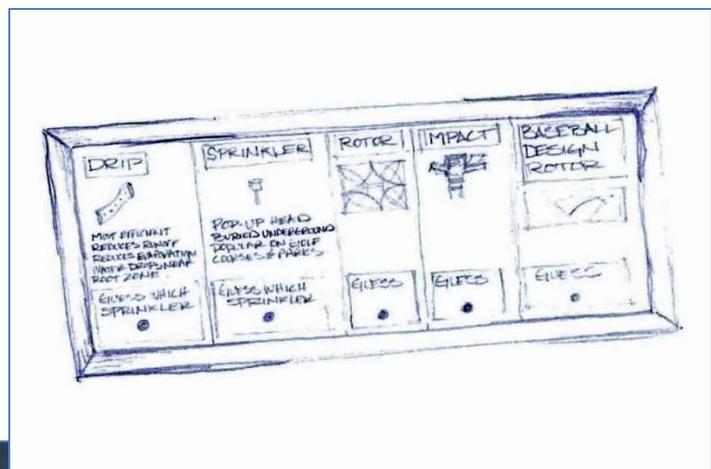
# IRRIGATION



## “Liquid Assets”

*Purpose:* Explain the basics of irrigation, its importance and water use efficiency

*Messages presented:*



Learn smart water usage

Examine sprinkler heads

Observe irrigation patterns

New irrigation technologies are water efficient; proper irrigation practices save water and make for healthier turf

# FERTILIZATION



"Feed Me"



*Purpose:* Explain the history of fertilizer and why nutrients are important for lawns



Explore fertilizer through history

See results of misapplication

Learn appropriate fertilization regimen

*Messages presented:* Proper fertilization makes healthy turf that traps excess nutrients, filters water and protects waterways, as well as providing safe turf for athletes

## MAINTENANCE EQUIPMENT



“Size Matters!”



*Purpose:* Display and demonstrate the latest in mower and maintenance equipment

*Messages presented:* Explain why mowing is important and show the advances in equipment technology

# HISTORY OF LAWN



“In the Beginning!”

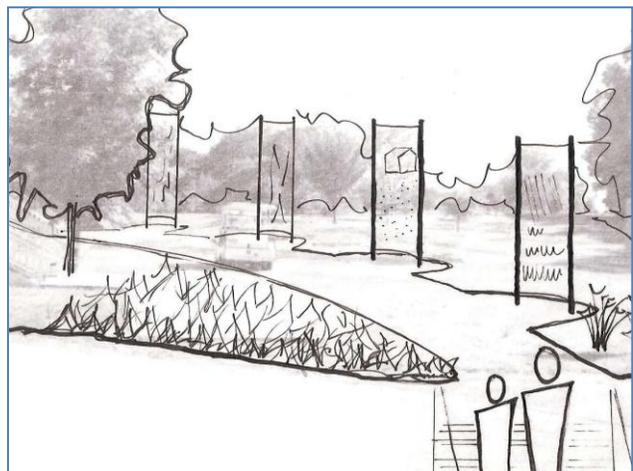
*Purpose:* To show the history of lawns from grasses in savannahs to modern day

Follow the history of grasses along the path

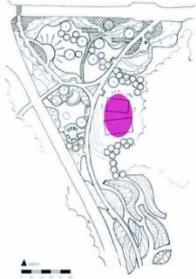
Experience a variety of current grass paver technologies

Understand the cultural and scientific influences on modern lawns

*Messages presented:* Humans have been culturally attached to lawns and grasslands for millions of years



# SPORTS FIELDS & LAWN GAMES



## "Game Winning Grass"



Learn the techniques for construction and maintenance of sports fields

Play traditional and modern lawn games

Participate with local sports clubs in exhibition events

*Purpose:* Introduce visitors to the complexities of sports turf and enjoy playing on grass

*Messages presented:*  
Sports turf is a complex, highly engineered system that protects people and the environment



# GRASS STRUCTURE AND MOWING



“Bottoms Up!”

*Purpose:* To show how grasses grow and why they are used in lawns

*Messages presented:* Grasses, unlike any other plant, are perfect for lawns because of the way they grow and all they can do; they are also fun to play on and explore



Learn details for botanical structure of grasses

Understand how grasses survive mowing and munching

Experience mowing fun with the people powered faux mowers

# Warm and Cool Season Grasses



“Happy with Heat or Content with Cold”



*Purpose:* Demonstrate the differences between cool and warm season turfgrass species

*Messages presented:* There are two basic categories of turfgrass with different characteristics, needs and uses

## RAIN GARDEN (with Grasses)

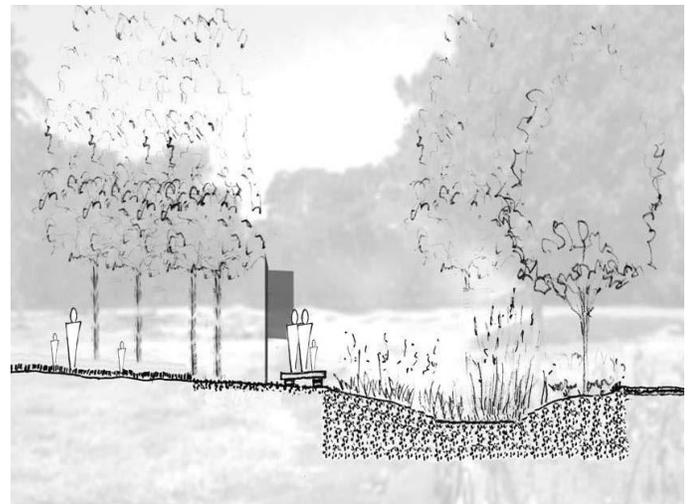


“Grasses Grab Pollutants”



Walk along the boardwalk to  
observe the rain garden

Learn about stormwater and the  
filtering effect of grass plantings



*Purpose:* To show how a rain garden containing grass and other plants work together to retain and filter storm water

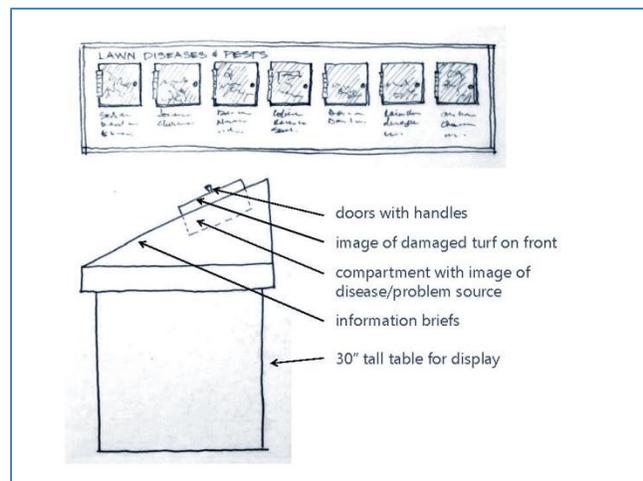
*Messages presented:* Lawns and rain gardens slow water runoff from urban areas so that filtering of pollutants occur and sediment runoff is severely reduced

# TURF DISEASES & PESTS



## “What’s Troubling My Turf?”

*Purpose:* To explore various problems and pest with lawns and turf, and explain some basic solutions



Damaged turf picture on door front



Damaged turf picture on door front



Grub picture on the inside of the door



Dog picture on the inside of the door

*Messages presented:*  
 Properly maintained turf will have less pest problems, in addition, some problems are caused improper management, pets, etc.

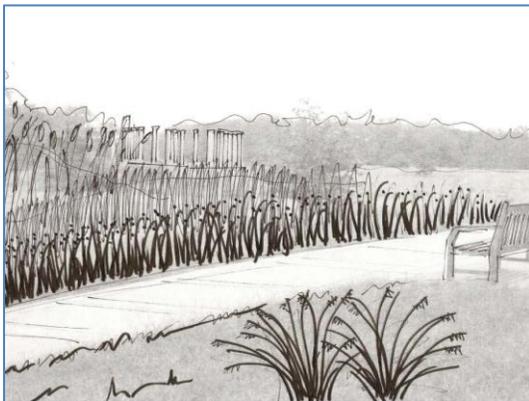
## AGRICULTURAL GRASSES



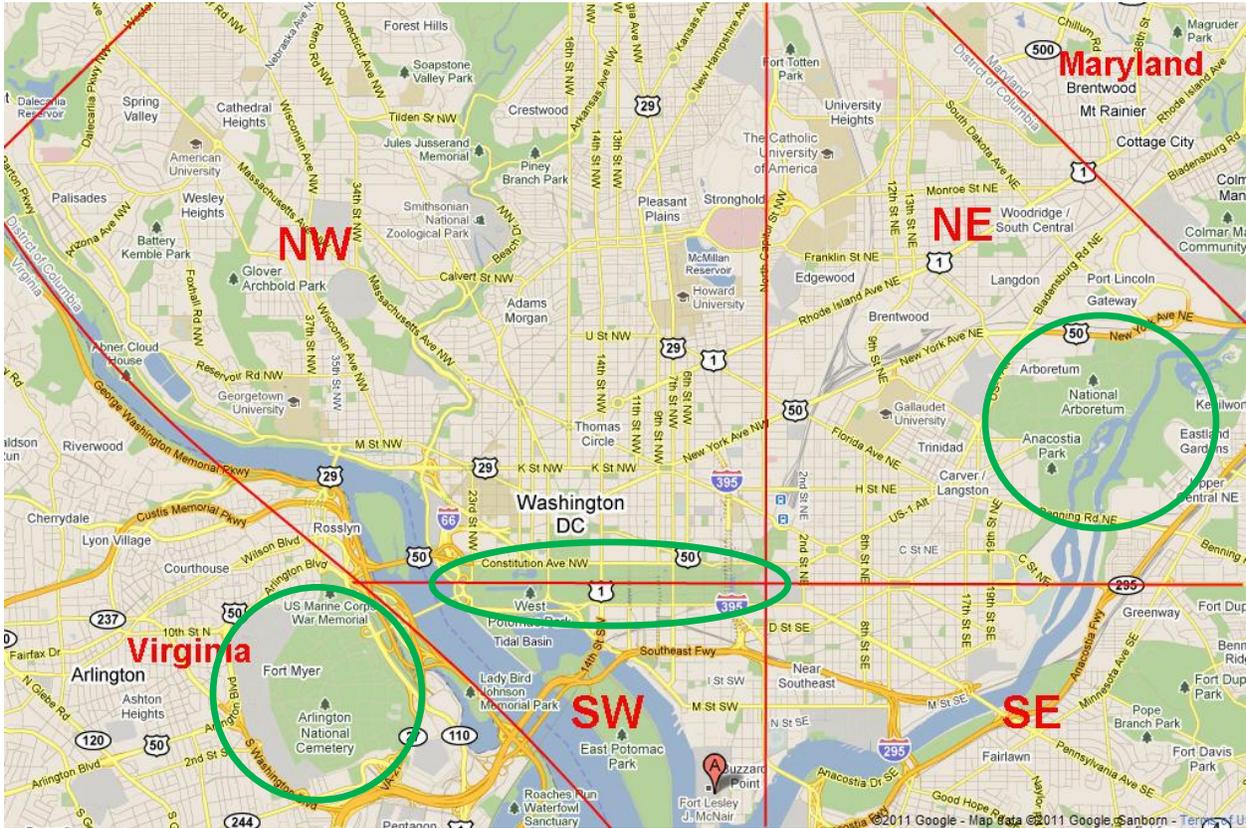
### "Waves of Grain"

*Purpose:* Display crops such as corn, wheat and rice that visitors may never have seen up close; inform visitors that these are grasses as well

*Messages presented:* Grasses are very important as food crops, for erosion control, habitat for birds, mammals and insects, etc. as well as their uses as turf



# 'NATIONAL GREENSCAPE CORRIDOR'



Links National Mall, Arlington National Cemetery and the U.S. National Arboretum and their turf uses

Could possibly include other entities, parks, schools, colleges, golf courses, etc.

## 'NATIONAL GREENSCAPE CORRIDOR'



**Arlington National Cemetery** – “*Service*” –  
honors service men and women by providing a pleasant resting place;  
a quiet, appropriate space for reflection and remembrance

**National Mall** – “*Stewardship*” –  
provides a safe and healthy surface for residents and visitors to play,  
assemble (exercise First Amendment rights) or simply enjoy our Nation’s Capital



**U. S. National Arboretum** – “*Science*” –  
details the science behind turfgrass development and management as well as new  
developments and technologies in the turfgrass field

## SPONSORSHIP LEVELS

Any and all donations are welcome and appreciated, however we have established these levels of support to guide you in determining the appropriate level of your gift

### *Bronze*

*\$1,000 - \$10,000* - State turf associations, local or regional grower groups, golf superintendent or facility manager associations, local or regional companies, individuals

### *Silver*

*\$10,000 - \$25,000* - national trade organizations, national companies

### *Gold*

*\$25,000 - \$50,000* - multinational companies

### *Platinum*

*\$50,000 +*

### **Sponsorship level benefits**

*All levels* - can use Grass Roots sponsorship in their promotional materials, their name will be recognized by the National Arboretum in Visitors Center

*We are open to your ideas or needs for demonstrations, workshops, symposia or other corollary events*

## HOW TO DONATE

### **Donations \$10,000 and over:**

Please direct to the National Arboretum. The National Arboretum has Congressional authority to accept corporate and charitable donations from the public, corporations, foundations and charities. A cooperative agreement will be established between your organization and the National Arboretum to ensure that your donation is used exclusively to support Grass Roots activities.

#### **To donate to the National Arboretum, please contact:**

**Dr. Colien Hefferan, Director**  
**U. S. National Arboretum**  
**3501 New York Ave., NE**  
**Washington, DC 20002-1958**  
**(202) 245-4539**  
[Colien.Hefferan@ARS.USDA.GOV](mailto:Colien.Hefferan@ARS.USDA.GOV)

### **Donations under \$10,000:**

Please direct to the National Turfgrass Federation, Inc. (NTF), a 501(c)6 non-profit organization. NTF has a Memorandum of Understanding in place with the USDA, ARS and will be employing the Coordinator of the Grass Roots project. Since the Federation is not engaged in federal or state lobbying efforts, 100% of your donation is tax deductible as a business membership fee.

#### **To donate to the National Turfgrass Federation, Inc., please contact:**

**Mr. Kevin Morris, President**  
**National Turfgrass Federation, Inc.**  
**P. O. Box 106**  
**Beltsville, MD 20704**  
**301-504-5125**  
[kmorris@turfresearch.org](mailto:kmorris@turfresearch.org)



June 5, 2013

Kevin Morris  
President, National Turfgrass Federation  
P. O. Box 106  
Beltsville, MD 20704

Dear Kevin,

The Lawn Institute supports **The U.S. National Arboretum “Grass Roots”** initiative.

Located just two miles from the United States Capitol in Washington, D.C., is the U.S. National Arboretum, the USDA Agricultural Research Service’s 446-acre research and education public gardens facility. The National Arboretum is planning “Grass Roots,” an initiative to use science-based information to inform and educate the public and policymakers about the importance of natural turfgrass and the many benefits it provides.

The National Arboretum receives more than a half million visitors each year, including members of Congress, landscape architects, master gardeners, garden writers, city and county planners, parks and recreation officials, homeowners, school groups and many others. Educating such a vast audience about turfgrass is an invaluable opportunity for our industry. With fun interactive outdoor exhibits, symposia, workshops and demonstrations focused on science-based information, the National Arboretum will educate consumers about the many uses and benefits of turfgrass, and the importance of turfgrass as it relates to our environment, economy and community. It will also highlight the numerous advances made by turfgrass research.

The turfgrass exhibit will be linked to other displays throughout the National Arboretum to support the message that natural turfgrass has a wide variety of uses from environmental to functional to aesthetic. The National Arboretum also plans to develop and publish a variety of articles about turfgrass, which will be featured on its website at [www.usna.usda.gov](http://www.usna.usda.gov). By addressing the benefits of turfgrass and educating the public about new turfgrass varieties along with how to properly care for their grass, this initiative will be a win-win for everyone.

The Lawn Institute and several other green industry organizations have pledged monetary support for “Grass Roots” to install and maintain the exhibit over a four-year lifespan and to create innovative science-based programs to help visitors discover the science underlying horticulture, advances in turfgrass choices and management, and the role of grass in our natural and cultivated systems.

Sincerely,

T. Kirk Hunter  
Executive Director  
The Lawn Institute



Dear Fellow Turf Industry Supporters:

In addition to the wonderful aesthetic and economic value of lawns, many renowned university studies show the important environmental benefits of healthy turfgrass. A healthy lawn filters pollutants from the air and water: it guards against water pollution by preventing soil erosion, captures carbon dioxide and releases oxygen for us to breathe, and has a major cooling effect during hot summer days. Overall, a properly managed lawn is great to look at, great for recreation and relaxation and great for the environment. In fact, research shows that when a lawn is properly managed with good cultural and maintenance practices, it is better for the environment than a non-managed lawn.

Yet, while research and science support the many environmental, economic and social benefits of properly managed turfgrass, the public is often unaware of the important role they play in managing their lawn. We at Agrium Advanced Technologies believe it is incumbent on us to do all we can to properly inform the public on the many benefits of turfgrass, sharing our science and new technologies with a broader audience.

Fortunately, we in this industry now have great opportunity to provide such a public service in a truly unique setting and with highly credible, non-industry partners. I am pleased to tell you about our investment, along with other industry partners, in support of the National Arboretum "Grass Roots" initiative. This initiative is a collaborative effort from the U.S. National Arboretum, the U.S.D.A. Agricultural Research Service and the National Turfgrass Federation. Grass Roots is a four-year educational exhibit that focuses on turf – the uses of turf, the management of turf, the benefits of turf, the value of turf. Grass Roots will be developed, organized and managed by the U.S. National Arboretum at their location in Washington, D.C.

In addition, Grass Roots will be part of the 'The National Greenspace Corridor'. The National Greenspace Corridor is a concept that is in the early development stages with the National Arboretum staff and the turf managers from the National Mall and Arlington National Cemetery. The vision is that this cooperative effort would include shared educational programs and facilities, along with visitor signage at the three locations highlighting turf uses and needs at each site, as well as how turf provides benefits.

This is a truly unique opportunity for our industry to partner with key government entities to educate the public on the **real story** about turf. This effort, like any other effort that is worthwhile, comes with need for financial support. It can't and won't happen without that financial support. However, I'm sure you will agree that a properly educated public will be a highly valued return on the investment. I urge you to join us at AAT and other industry partners in financially supporting this important initiative.

Sincerely,

Paul McDonough  
Strategic Account Lead  
Agrium Advanced Technologies

**United States Golf Association**  
Green Section Research  
PO Box 2227, Stillwater, OK 74076  
T 405.743.3900 F 405.743.3910  
mkenna@usga.org www.usga.org



June 25, 2013

Mr. Kevin Morris  
President  
National Turfgrass Federation  
P. O. Box 106  
Beltsville, MD 20704

Dear Kevin,

The proposed turfgrass exhibit titled "Grass Roots" at the US National Arboretum is an important initiative because it allows our industry a chance to tell the story about the role turfgrass plays in our urban and suburban environments.

We support Grass Roots because it will showcase the benefits of turfgrass, not only in a golf course setting, but in home lawns, commercial landscapes, and sports fields. The exhibit will provide an opportunity for the turfgrass industry to partner with the USDA Agricultural Research Service to educate the public about the important functional, recreational, and ornamental aspects of several important turfgrass species.

If we do not support Grass Roots, we will miss a valuable opportunity to work closely with the USDA Agricultural Research Service in an effort to provide trustworthy, science-based facts about turfgrass management and the benefits our industry works tirelessly to provide to the public. If our industry fails to support the Grass Roots exhibit, we will miss a chance to impact millions of visitors to the US National Arboretum, as well as the development of a USDA-sponsored educational website about turfgrass.

It is my hope that the turfgrass industry takes a strong position about the importance of turfgrass in our modern culture by financially supporting the Grass Roots exhibit at the US National Arboretum in Washington, DC.

Sincerely,

Michael P. Kenna, Ph.D.  
Director