

usda **sustainable** landscape partnership



whitten building landscape design **charrette**

final report - January 2008

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final report . january 2008

The Sustainable Landscape Partnership is a project of the United States Department of Agriculture. Participating agencies include:  
US Forest Service (FS),  
Natural Resources Conservation Service (NRCS),  
Agricultural Research Service (ARS),  
Agricultural Marketing Service (AMS),  
Departmental Administration (DA).

## INTRODUCTION

The November 30, 2007 Whitten Sustainable Landscape Design Charrette brought together technical experts in the fields of landscape architecture, horticulture, forestry, hydrology and engineering to inspire a vision for the USDA Whitten Building headquarters on the National Mall in Washington DC - one that demonstrates environmentally responsible practices, educates and engages the public via accessible exhibits, provides social benefits for employees, and serves as a model for other public institutions in the region.

The November 30, 2007 charrette, sponsored by USDA Departmental Administration, was a first effort by the USDA Sustainable Landscape Partnership to motivate a network around this project and move closer to realizing its goals to improve USDA National Capital Region facilities:

- Reduce the environmental impacts of stormwater runoff and provide wildlife habitat by using environmentally beneficial landscaping.
- Use the landscape as a demonstration area site for tourists, visitors, and employees. These living and accessible educational exhibits will provide an opportunity for the public to learn about environmental issues, about USDA programs and initiatives, and what citizens can do in their own backyards to help the environment.
- Maintain the project as a learning lab for our landscape contractors by enlisting them to participate as partners and using that knowledge at other facilities.
- Improve the appearance of the USDA grounds by using plants and features that will add visual interest to the site.
- Highlight this partnership as a model and the landscape as a showcase for sustainable site practices in the region.

**USDA Headquarters  
(Whitten Building)**

**Sustainable Landscape Design Charrette**

November 30, 2007  
10:00a.m.-3:30p.m.  
USDA South Building Cafeteria

For more information contact:  
Matt Arnn, Acting Chief Landscape Architect  
US Forest Service  
marnn@fs.fed.us  
202.205.9599

**USDA SUSTAINABLE LANDSCAPE PARTNERSHIP**

**A GREENER USDA LANDSCAPE. A LASTING USDA LEGACY.**

The Sustainable Landscape Partnership is a project of the United States Department of Agriculture (USDA). Participating agencies include the US Forest Service (FS), Natural Resources Conservation Service (NRCS), Agricultural Research Service (ARS), Agricultural Marketing Service (AMS), and Departmental Administration (DA).

## BACKGROUND

The six acre Jamie L. Whitten building site is bordered by 12th and 14th Streets SW and by Independence and Jefferson Drive SW. The Building, designed by Rankin, Kellogg and Crane, it is one of USDA's highest profile and most visited properties.

The Whitten landscape is a mix of mature and newly planted trees, native and invasive shrubs, and sprawling groundcovers and lawn. The bedding material at this site is rotated three times a year featuring spring bulbs, annuals, and cold weather bloomers. (Over 35,000 tulips, begonias and geraniums are planted each season.) The landscaping costs at the Whitten Building exceed \$240,000 annually. Additionally the existing landscape material requires over 30,000 gallons of water each summer. No master plan currently exists for the landscape and many incompatible and intolerant trees and are poorly adapted to the site. Heavy amounts of asphalt paving raise summer temperatures and increase stormwater runoff.

## PROCESS

The design charrette attracted over 75 participants including representatives from the National Park Service, US Environmental Protection Agency, Bureau of Land Management, US Botanical Garden, National Arboretum, Government of Washington DC, the National Capital Planning Commission, the American

Society of Landscape Architects, National Arbor Day Foundation, Nature Conservancy, Casey Trees Endowment Fund, Low Impact Development Center, Alliance for Community Trees, National Mall Trust, Natural Resources Design), and professors and students from Morgan State, University of Maryland, Catholic University, Prescott College, Virginia Tech, and George Washington U.

Following introductory comments from USDA Assistant Secretary, Boyd Rutherford, Forest Service Recreation Director, Jim Bedwell, and a guided tour of the Whitten grounds, participants were divided into teams representing distinct geographic quadrants. The Zone strategy allowed groups to create more detailed site solutions given the expansive landscape and limited time.

While the zone parameters helped focus the group, participants were encouraged to collaborate, considering the entire landscape and its relationship to the National Mall.



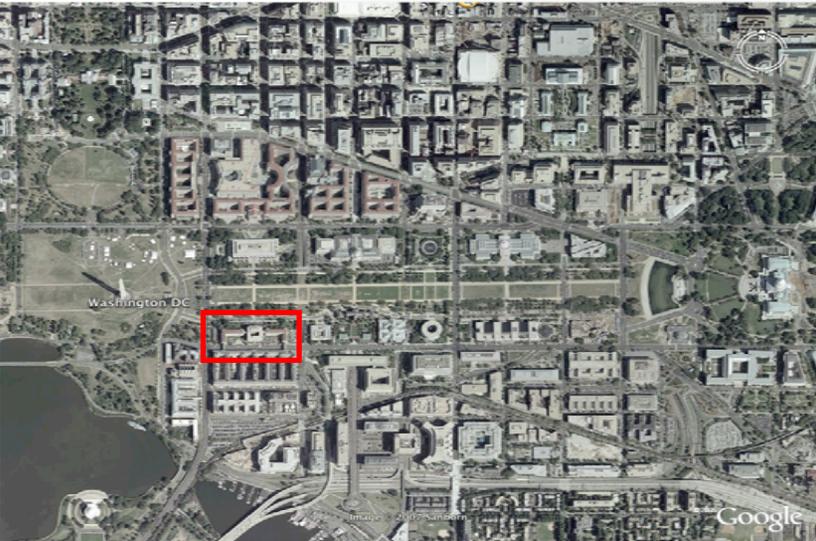
The teams developed concepts that reflected the themes and goals presented at the beginning of the design charrette.

The themes and goals included:

- Reduce stormwater runoff with raingardens, greenroofs and bioretention practices.
- Create new habitat for pollinators.
- Educate public with interpretive signage and interactive features.
- Reduce maintenance costs with high performing native plants.
- Feature USDA agencies with thematic elements and plants.
- Improve the visual quality of the headquarters landscape.
- Provide learning opportunities for children.
- Organize and provide for a living memorial on site.
- Enhance Farmers Market operations and site integration.



# SITE LOCATION



Jamie L. Whitten Building (USDA Headquarters) on the National Mall



## Sustainability Guidance

Inspiration for the charrette came from ASLA staff and the Sustainable Sites Initiative and included:

Consciousness raising - Think beyond “green roofs.” Understand the larger concept of the regenerative quality of the site.

Accessibility and Connection - Implies more than compliance with accessibility standards in all aspects of the project. It involves a deeper understanding about the site and communicating this sense of the space - the logic - to users. (Often by communicating how the site works and its history). With this deeper understanding, or logic, the user’s comfort level and connection increases which adds dimension to the whole experience of the place.

Aim for the goal that nothing should leave the site – water, soils, materials, or vegetation either during construction or with the on-going use and maintenance of the site. (e.g. compost gardens to compliment the already existing cafeteria recycling program.)

Materials - Use local resources or what you find on site.

Stewardship - Is an interactive process with different methods of engagement from how the site is used to teaching. The goal is to instill caring and knowledge to go forward.

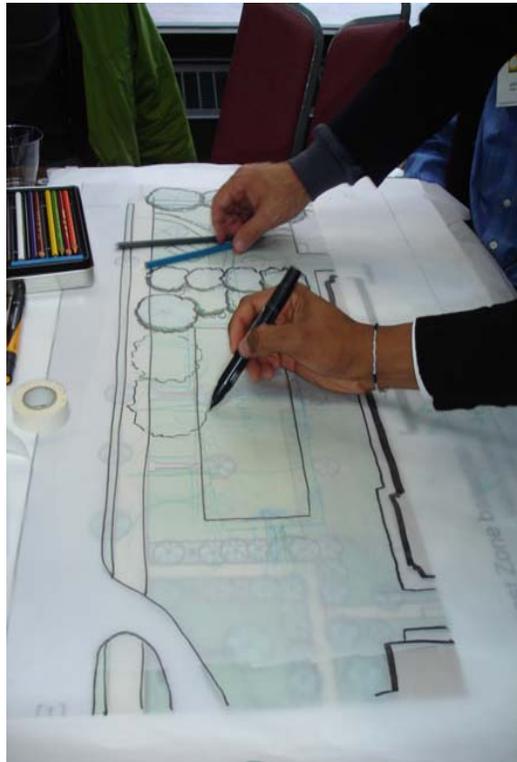
Sense of Place - Capture the history and identity of USDA in the redesign.

Think bioregional - Think linkage beyond the project site in order to connect (for example pollinator and migration pathways) as well as biodiversity. This also applies to stormwater management since water sheds are beyond the scope of individual sites.

For more specific information please go to:

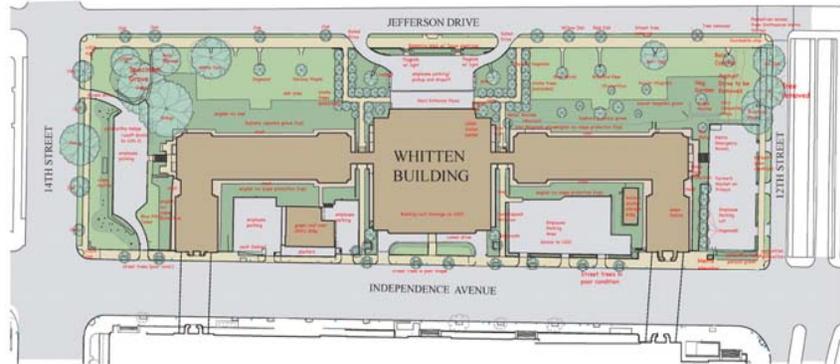
[www.sustainablesites.org](http://www.sustainablesites.org) and

[www.ASLA.org](http://www.ASLA.org)



## AGENDA—November 30, 2007

- 10:15a.m.** Welcome — Matt Arnn, Acting Chief Landscape Architect, US Forest Service (FS); Guest Speakers—Boyd Rutherford, Assistant Secretary for Administration, USDA; Jim Bedwell, Director of Recreation and Heritage Resources, FS
- 10:30a.m.** Whitten Building Sustainable Landscape Partnership Overview — Edward Hogberg, Energy and Environmental Program Manager, USDA; Ed Murtagh, P.E., Acting Deputy Chief, Operations, USDA
- 10:40a.m.** Agenda, Goals for the Day, Program for a Whitten Sustainable Landscape — Matt Arnn
- 10:55a.m.** Introduction to the Site and Priority Zones for Modification — Bob Snieckus, National Landscape Architect, Natural Resources Conservation Service (NRCS),
- 11:15a.m.** Overview of Existing Landscape Plants and their Landscape Value — David Pivorunas, Endangered Species Program, FS; Joan Feely, Curator, Native Plants, US National Arboretum
- 11:30p.m.** Tour of Whitten Landscape
- 12:30p.m.** Working Lunch-Facilitated Breakout Session (7 groups) to address priority zones and provide recommendations for redesign
- 2:45p.m.** Reconvene and Group Reporting
- 3:30p.m.** Next Steps, Matt Arnn; John Crew, Director of the Office of Operations, USDA

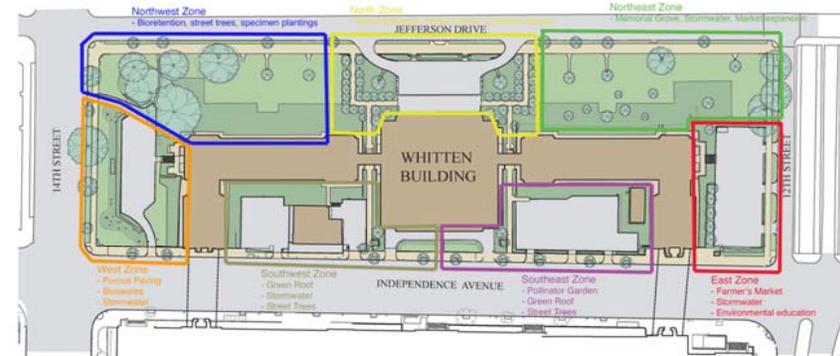


### Site Analysis

USDA Existing Site Plan - Whitten Building



Site analysis of the Whitten landscape presented to charrette attendees.



### Zone Map

USDA Existing Site Plan - Whitten Building



The site was subdivided into zones and landscape themes.

## NORTHWEST GROUP

Facilitator: Linda Parker, USFS

The Northwest zone is along the front of the Whitten building. It features expansive lawns, landmark groves and interspersed memorial trees. Bordered by the Whitten building, 14<sup>th</sup> Street and Jefferson Drive, the site is highly visible from the Mall. A large bed of English Ivy and Sophora plantings are along the building. Specimen ginkgos, a linden, pond cypress and white oak are located at the 14<sup>th</sup> Street side of the zone. A garden path shortcut to the parking lot passes through the grove.

### Concept Plan

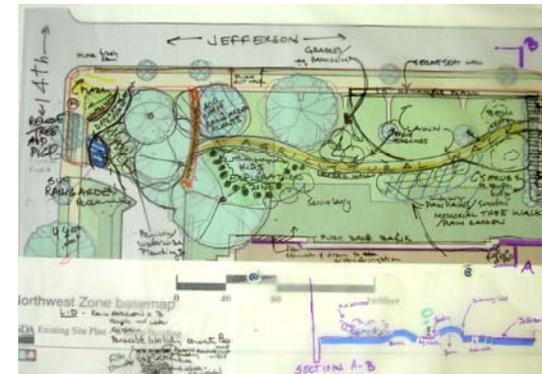
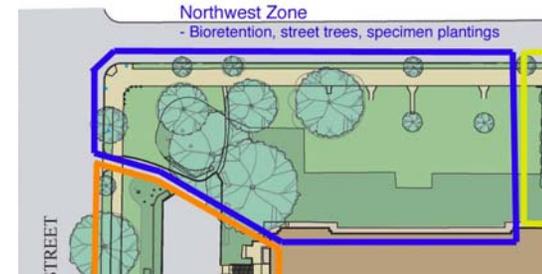
The group developed a series of goals & objectives in designing their plan:

- Remove invasive species.
- Highlight water conservation, irrigation efficiencies, and storm water control.
- Design in mystery, suspense and fun into landscape
- For instance, in summer when it is so hot – there could be shady places on the north side that have seating, maybe even picnic area.

- Bollards could visually highlight tools for agriculture.

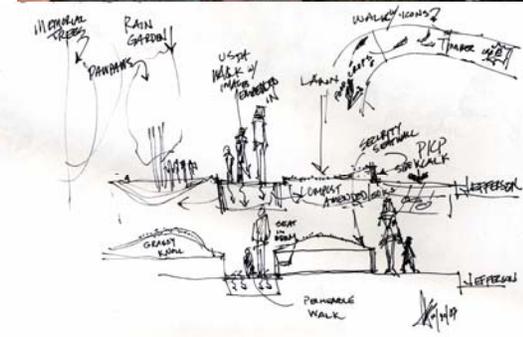
### Education

- See education happening along the whole front of the building. (*Tourists flow between Washington Monument to Smithsonian on the Mall side of Whitten building, east to west.*)
- Education opportunity to use 2D & 3D visualizations such as murals with tree shapes to call attention to features in the landscape.
- Learning opportunities for preschoolers.
- Consider an agricultural crop walk, detailing USDA history.
- Be cautious of shrub plantings that invite the homeless or crime. Other Mall gardens use gates at night or curbs around the plantings. Plant theft has been a problem in one of the botanical gardens. Update or eliminate the irrigation system.
- Education opportunity to show kids how vegetables are grown. Enhance with large vegetable sculptures.
- Provide information for teachers with learning outcomes, key spots to find, with educational themes
- Create a cellphone directed guided tour as part of the educational opportunities and improved entry/waiting area on the NW corner.



Landscape Design

- Expand corner near Washington Monument. Add seating with plantings and information about landscape. Trash can needs to be moved.
- Design topography to change public perception such as swales for storm water, bridges over swales, boardwalks, etc.
- Create pathway with seasonal plantings
- Highlight food plants that are economically important or ornamental. Use raised beds or vegetative structures to enhance.
- Design landscape to encourage people into visitor center, curving the path from east to west. Add public restrooms
- Maintain a minimum of 25% of the total area in lawn to provide formal and well cared for look to counter-balance the more native, less pruned look. How lawn is treated could provide gathering places.
- Remove the walk way to dedicated trees. Consider a site-wide memorial walk to trees and memorial groves. Colocate dedication plaques in one location. Provide tree names and information interesting to children. Create artist contest to create mural.
- Street trees on the Mall roadside are not worth keeping and not required for the Mall Plan. Cut off 4 feet of the sidewalk on USDA side and place shade trees there instead.
- Remove street tree strip on Jefferson and repurpose as sidewalk—gaining additional tree planting space on Whitten lawn. Use permeable pavement for sidewalk. *See street tree manual – 18 inch stepout, etc.)*
- Place interesting benches and sculptures in the landscape.
- Enhance with plants that show changes in the season, diversity of color and fragrance.
- Terrace the slope into a stair step fashion. Create sand filter as an under drain or cistern for water retention at the bottom. Widen space at the bottom for employees to use. Consider native vines and plantings, such as spice bush, etc.
- Place murals on retaining wall.
- Incorporate trees into garden beds of Virginia bluebells, daffodils, spring ephemerals to replace the ivy.
- Consider 18 inch berm along main entrance from NW side; replicate on NE side.



## NORTH GROUP

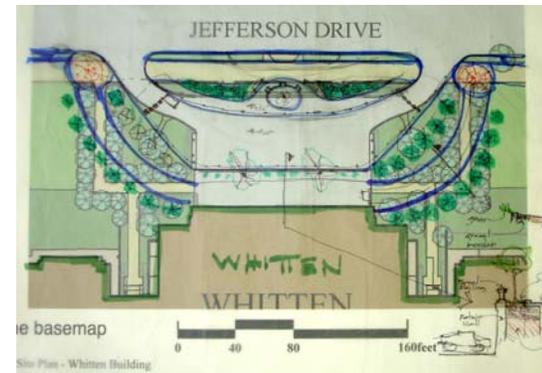
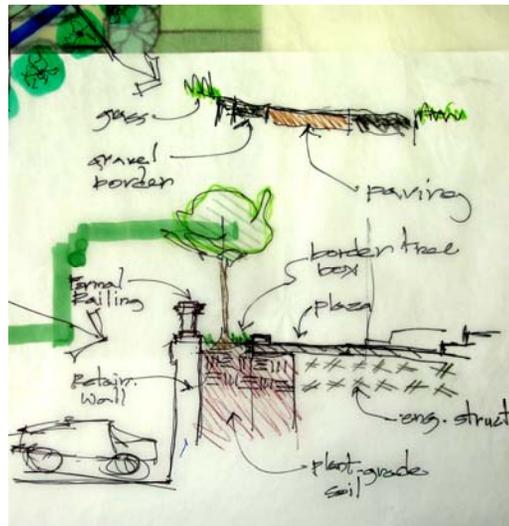
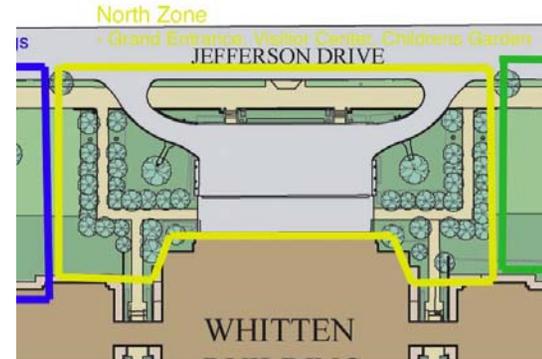
Facilitator: Glenn Smith, Morgan State  
Mike Hill, Virginia Tech

The North Zone includes the area of the front entrance to the Whitten building and is the highly visible face of USDA from the Mall. The entrance is on-axis with the American History Museum across the Mall and is also the architectural center of the building's symmetrical façade.

The North Zone group was surprised at the beauty of the "Grand" entrance yet surprised to find a parking lot directly in front. The formal plantings are a valid design complementing the building architecture, however, intense maintenance practices are compromising the landscape design intent. The group felt that the entrance and signage for the USDA visitor center could be improved. They also wanted to investigate reducing or moving parking.

### Goals for the concept plan:

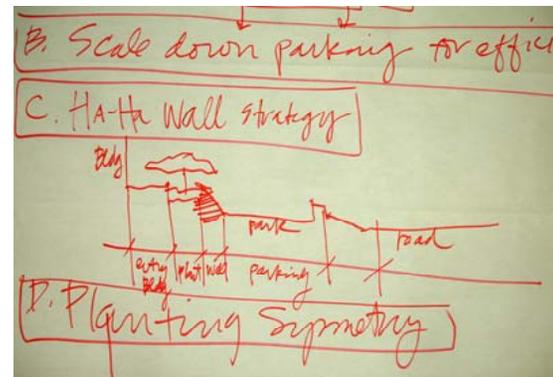
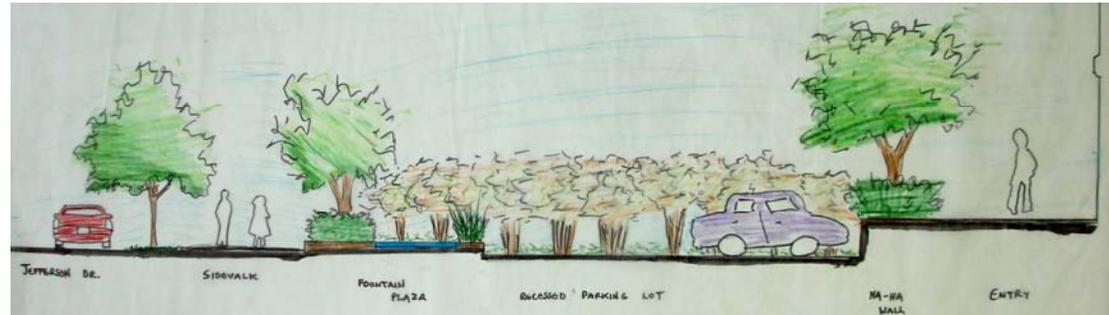
- Restore historic front entrance
- Remove or relocate front parking to perimeter
- Reduce stormwater runoff



- Visual Improvement by depressing parking lot below pedestrian view
- Children’s Learning Garden
- Feature USDA Plant selections in display gardens

**Landscape Design**

- Shift parking to sides of entry
- More formal front entry space plantings
- Scale down parking for efficiency
- Use center area for drop off only and shift parking to wings
- Ha Ha Wall Strategy
- Planting Symmetry
- Circulation through the memorial
- 12<sup>th</sup> and Jefferson connected node for memorial garden and farmers market
- East parking as green space/farmers market
- Moat—terraced bio-remediation (green spaces)
- Green roofing system on slope (filtering)
- Street trees: continuous green space
- Children’s Garden through the site
- Path through the memorial
- Farmers garden material
- Smokey Bear theme
- Pollinator Gardens
- Consolidate Memorial Space



## NORTHEAST GROUP

Facilitator: David Myers, University of Maryland

The Northeast Zone includes the area at the corner of Jefferson Drive and 12th Street. With it's prominent location along the Mall, proximity to the busy Smithsonian Metro station, the Farmer's Market, and the Tourmobile stop, the zone has very high visibility to the general public.

The Northeast group felt that the existing landscape design of the area to be compromised by temporary pavements, numerous memorial tree plantings, and vegetable gardens. Informal plantings contrast with the formal landscape plantings along the face of the Whitten building east wing. The group noticed poor street performance and evidence of missing and recently removed trees.

The group chose these overall goals to guide their concept plan development.

### Overall Comments

- The history of the USDA site from archived photos seems to suggest an element of creative exploration. Experimental gardens were very much in the public eye as part of the public space.
- Melwood Program teaches and employs an underrepresented group how to care and maintain the site. This new "green collar" sector is an example of the Economics of Sustainability. Goal is to have Melwood employees learn about sustainable landscaping at the USDA site.

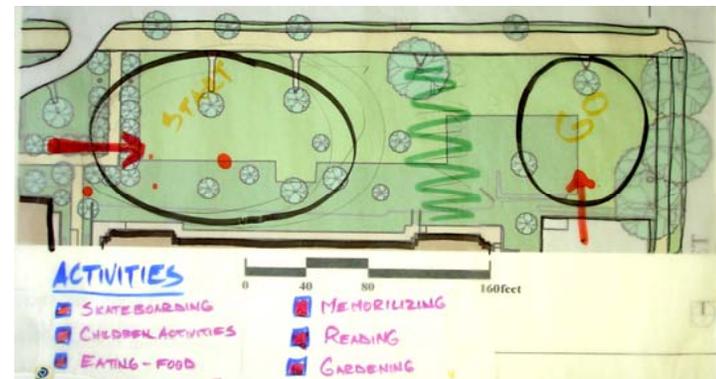
- Rethink Memorials
- Engage Children and Visitors
- Connect to Mall
- Enliven for Day and Night
- Demonstrate USDA Mission
- Implement Sustainable Practices
- Connect to Farmers Market
- Create a "Sense of Place" or Identity
- Reduce Maintenance Costs
- Educate and Inspire
- Create a Model

### Issues

- Composting
- Poor Soil
- Native Plants
- Hydrology—Pooling water
- Parking Lot Run-off

### Big Ideas

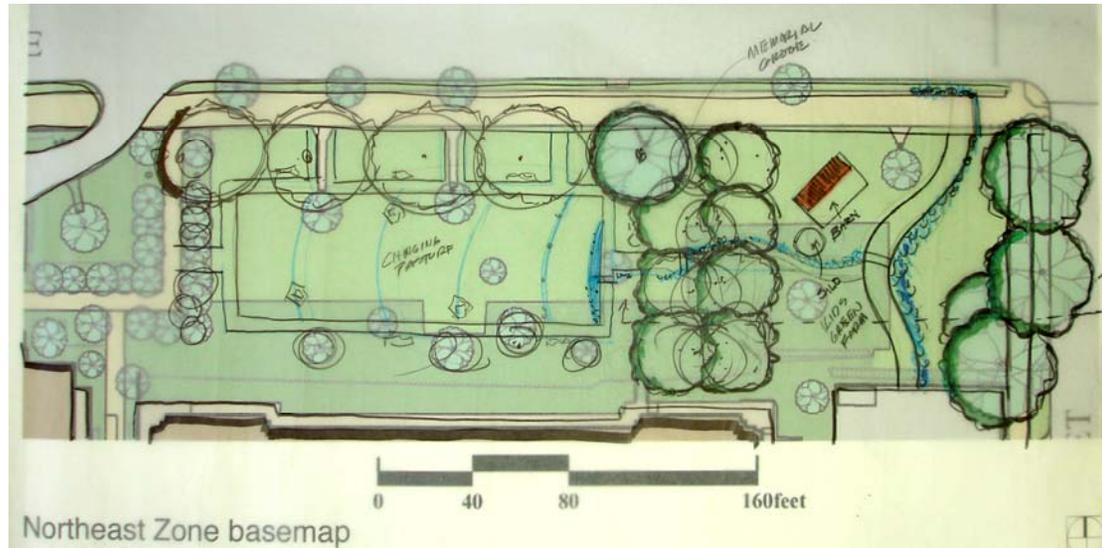
- Connect Green Museums
- Children's activities
- Memorial of Nature
- Front Yard Activities



Concept Plan

The group investigated the following activities and locations:

<u>Activities</u>	<u>Location</u>	<u>Condition</u>
Skateboarding	Metro	Flat/Slope
Children's Activities	Closer to Existing	Compact
Soil		
Homeless to sleep	People at sidewalk	No Identity
Eating-food vending?		Uninviting
Gardening	Plants	No Color
Exercising	Open	No interpretation
Reading		
Memorializing	Ex. Memorial Visibility	No walls
Self Guided Tours	Connection to Farmers Market	



## EAST GROUP

Facilitator: Jack Sullivan, University of Maryland

### Overall Comments

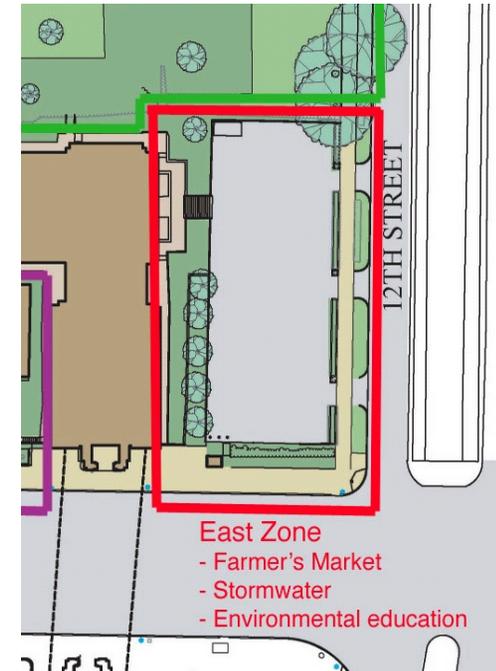
The East Group questioned the value of the parking lot (as car storage AND as farmer's market venue) at the entrance to the Metro and as the front yard to USDA. The group considered adding rain gardens, reducing the parking lot size, and changing the pavement to a permeable surface. The group concluded that the lot was an "assault on the image and integrity of USDA." The rationale focused on storm water runoff problems, too much pavement in the area, and the desire to create an image for USDA that reflected goals for sustainability. This conclusion provided room to ease the slope at the basement windows and bring a garden into view there, too. The result is a place that encourages pedestrians to stay a while longer by offering shade, comfortable seating, and a garden nearby.

The group proposed that a connection between the Mall and the Metro be strengthened with an arbor that would parallel 12th Street, cover a sidewalk that would be pulled back from the street, and invite people into the garden/plaza, located closer to the south side of the site (nearer to the Metro stop).



The Farmers' Market would be moved to 12<sup>th</sup> Street (a low-volume route that could easily be closed down on occasion). The group proposed removing the curb in places (for storm water collection), increasing the planting, connecting the street to the new pedestrian plaza area, and creating a space that changes with every use. On market day, everybody pours into the street. On the east side of the street, where the gash exposes the sunken roadway, the group added more planting to screen this area from view, further reducing the width of 12th Street.

The group agreed to move the agricultural plot away from the "front yard" of USDA (northeastern corner). As they liked the concept, they thought the plots might be better suited as a linear garden parallel to 12th street and pushed closer to the building. The eased slope at the building might accommodate an agricultural use (it just wouldn't be your average Iowa landscape character).



Challenging maintenance but less obtrusive, especially in the winter "fallow" months.

Goals include:

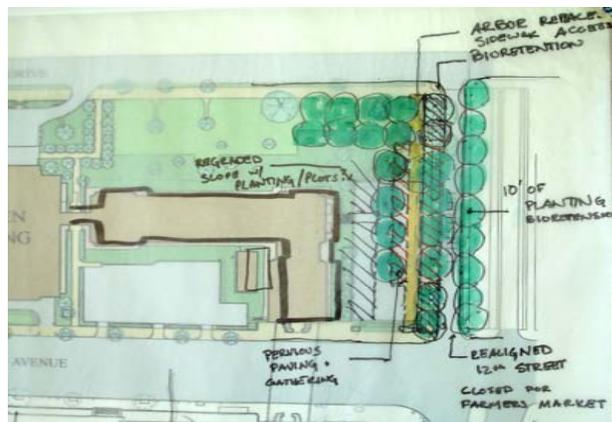
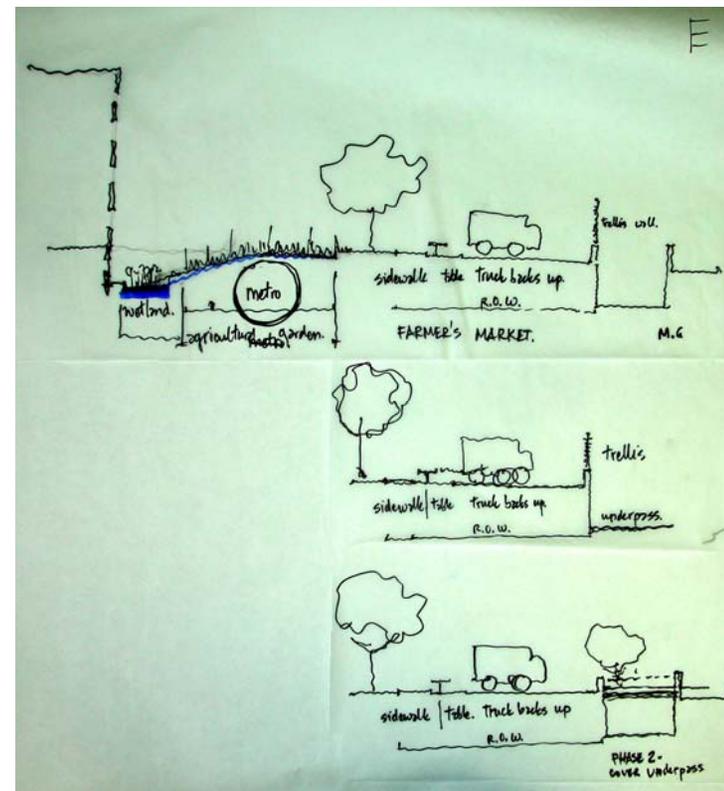
- Appropriate scale and character
- Plants in a sustainable manner
- Attract People—accommodate people with seating and shade
- Connect the edges and adjacent uses
- Accommodate a variety of uses
- Mitigate surface water problems
- Educate the public
- Reduce energy (resource) consumption on site

Parking

- Remove or Reduce

Farmers Market

- Increase visibility
- Agriculture Plot in the front yard



## SOUTHWEST GROUP

Facilitator: Rick Harlan Schneider, Envision Design

Two dominant features of the Southwest zone are surface level employee parking and a one-story utility building. Two gated driveways access the parking area and service the utility building. There is a closed-off building entrance. The utility building contains most of the HVAC and electrical equipment that services the main building. There is a substantial sloped area along the building moat. There is a loose collection of round and rectangular planters along the parking lot and in front of the utility building.

The group observed that this zone has the poorest visual quality of the entire site. The highly visible parking and utility building have very poor screening allowing high public visibility. The scattered round planters and unique concrete pavers in front of the utility building create a poor public perception of the area. The English Ivy plantings are performing poorly on some slopes as are trial plantings of Liriope. Parking lot runoff is sent to combined sewer system. Poorly performing street trees and other plantings were also observed.

### Concept Plan

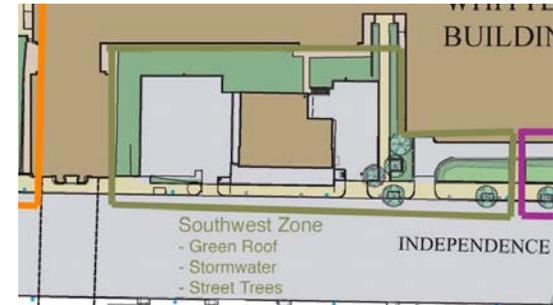
This group developed a concept plan that provide numerous solutions to the landscape of this "Utilitarian Zone". The goals the group developed for the re-design of this site include:

#### Aesthetics

- Screen parking lots with new planters and native plantings
- Vegetated facades
- Remove pots and retrofit planters to approved security standards
- Install raised planters and terraces on slopes of moat
- Create a "Topographical Green Roof" design on utility building and extend plants and design from roof to sidewalk and parking lot.
- Educational green roof demonstration area along sidewalk
- Green roof lifted or tilted to face street and building

#### Runoff

- Manage on-site by storing in new cisterns under parking and above ground in a "Grain Silo" storage tank
- Treat runoff from other zones as well
- Reuse to benefit entire Whitten site
- Use to improve aesthetics out of zone



#### Opportunities

- Green roof
- Steep slopes/terraces-storage
- Permeable pavers
- Sacrifice parking spaces for bioswale median
- Reduce existing paving
- Functional trees: shade/glare energy
- Vault-pump water through site and to additional storage

#### Challenges

- Public vs. private sectors
- Functional site—maximize parking  
Do the "dirty work."

#### Strategies To Achieve Goals

- Keep parking
- Maximize Cistern Storage
- Terrace Slopes
- Implement LID themes at site scale



## SOUTHEAST GROUP

Facilitator: Aaron Feldman, Rhodeside and Harwell Landscape Architecture

The Southeast zone along Independence Avenue includes surface level employee parking with several driveways, a substantial sloped area along the building moat, an accessible building entrance, and a small “historic” storage structure. Vegetation existing in this zone is mainly English Ivy slope plantings, Yew hedges lining the entrance and streetside sidewalks and several street trees.

The group investigated solutions to many of the site’s problems of poor public and employee perception of the space; invasive species plantings; expansive paved areas; pavement runoff sent to combined sewer system; poorly performing street trees; and the abandoned storage building.

### Concept Plan

The group generated these overall design goals:

#### *General Site Conditions*

- Change the “back of house” public perception to a more positive one through innovative landscape design and adaptive reuse of structures.

#### *Sidewalk*

- Widen the narrow sidewalk and enlarge areas for trees

- Add street trees where possible (connect beds)
- Possibilities for deep root retrofit?
- Install bicycle racks and interpretive signage
- Install a rainwater powered fountain

#### *Parking lot*

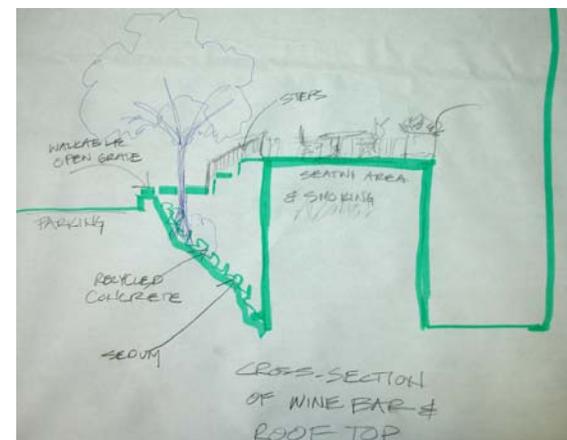
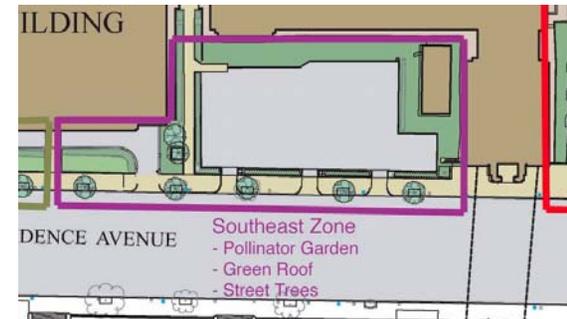
- Retrofit whole lot to pervious material - direct infiltration
- Add trellis overhead to portions of lot; plant USDA organic grape vines
- Repave lot with high reflectivity porous concrete
- Re-purpose the unused lower access ramp into a vault for roof runoff storage

#### *Alcohol Storage Building*

- Rehab the existing building into an Organic Wine Bar
- New green roof/patio
- Connect to parking lot and sidewalk with open grate decking with sedums underneath
- Connect to building entrance with walkway at top of sloped area

#### *ADA Building Entrance*

- Improve aesthetic and more inviting
- New plants
- Pollinator garden



*Current Underground Parking Entrance*  
 Cistern to store roof runoff  
 Feeds fountain near main building entrance

*Federal Security Measures*  
 Incorporate select security measures into all new planters and entrances.

Suggested Plant List

*Habitat/Pollinator*

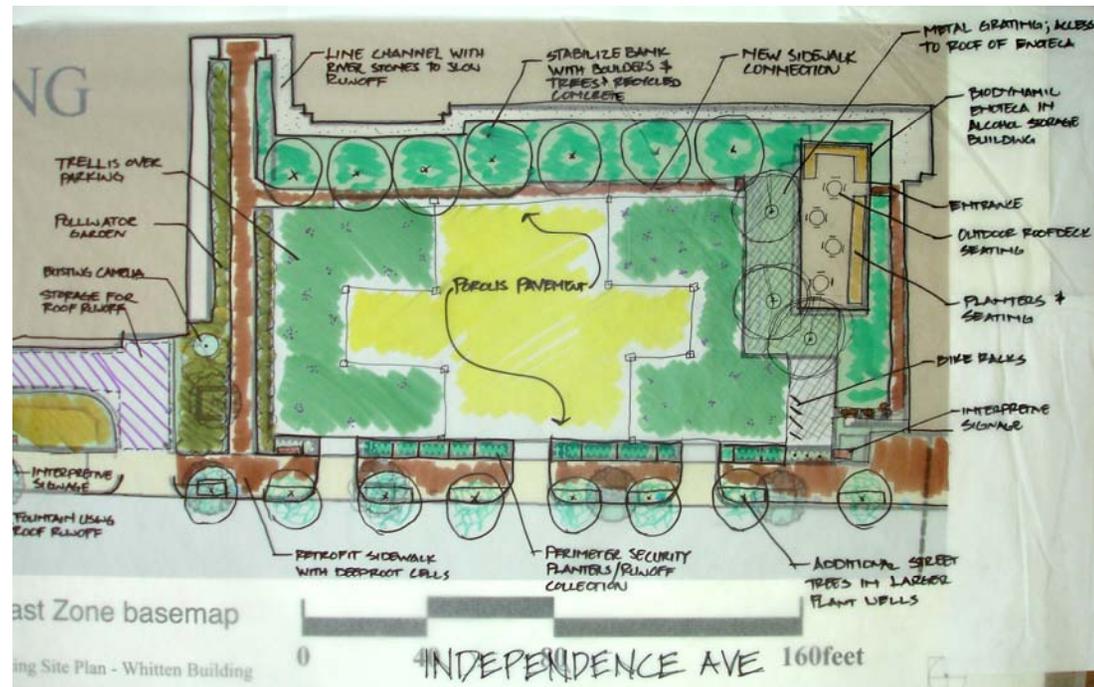
- Itea
- Aronia
- Viburnum Nudum
- Clethra
- Rudbeckia
- Joe Pye Weed
- Monarda

*High Slope Areas*

- Betula
- Panicum
- Sedum and Phlox
- Antennaria (pussy toes)

*Trellis*

- Campsis radicans
- Wisteria frutescens
- Passiflora



## WEST GROUP

Facilitator: Elliott Rhodeside, Rhodeside and Harwell, Landscape Architecture

The West zone of the Whitten site is presently used for employee parking. The lot is screened from public view by a linear massing of shrubs, small trees and annuals along the 14<sup>th</sup> street and Independence Avenue sides.

The West group first assessed the entire Whitten building and site context and developed a Landscape Framework to guide their west zone concept plan. The Framework Plan suggests modifying the existing landscape uses to:

- Create a unified perimeter treatment that integrates security upgrades in a manner sensitive to the visual quality of the building architecture, landscape and streetscape.
- Preserve, protect and rehabilitate the Mall-side landscape.
- Incorporate Low Impact Development (LID) and “Green” solutions.
- Restore the historic front building entrance to pre-parking conditions and/or reduce visual impact of parking from important front axial views of building.

- Suggest relocating front parking to consolidated lot along east side of site.
- Create a gateway “Eco-Educational” garden based on Green principles.
- Deconstruct moat slopes and create green walls.
- Create demonstration or “Hot” gardens for public visitors
- Expand select parking lots on-grade or create multi-level deck underground.

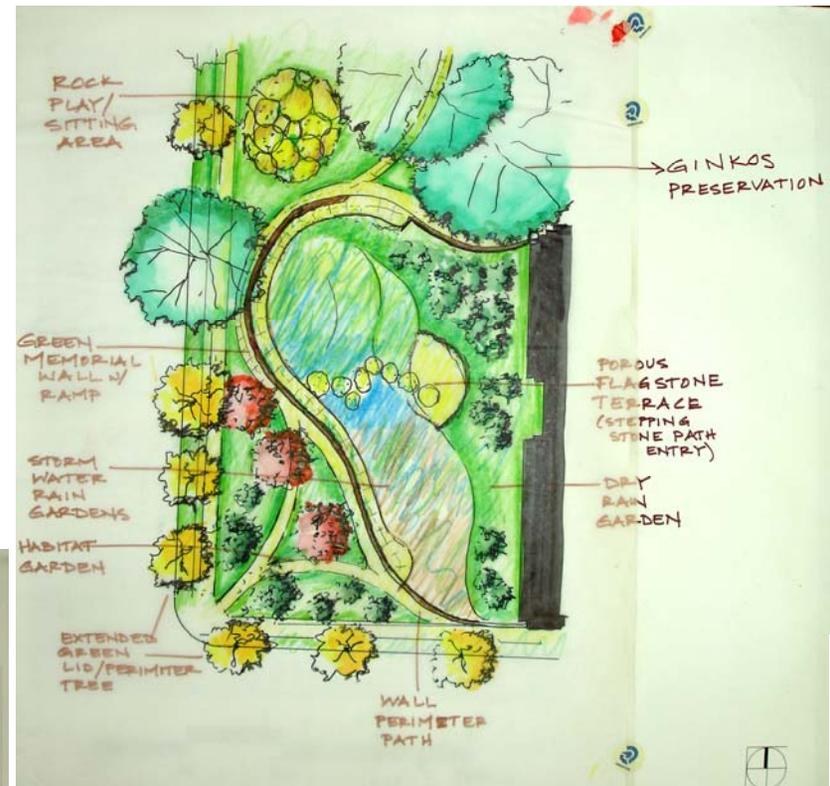
### Concept Plan

The group felt that the west zone site is so important and well situated with excellent views to the Washington Monument, the Auditors building and the west face of the Whitten building that its main use as a parking lot should be changed. Since the group observed that large numbers of visitors and tourists pass the site on their way to museums, the Mall, the Monuments and the White House, the group wanted to “capture” visitor’s attention by constructing a passive “Green Memorial Wall” and “Gateway” garden.



**Goals for the Concept Plan**

- Move parking management off site
- Celebrate use of gateway site
- Move from whole site to off site
- Expose buildings/ celebrate architecture and specimen landscape
- Increase environmental education
- Respect the L'Enfant Plan
- Maximize view of the Washington Monument
- Storm water treatment around perimeter
- Create a major attraction and location for memorial plaques
- Maximize Low Impact Development issues by harvesting roof and site rainwater, utilizing porous paving, bioretention
- Utilize swales, raingardens, native plantings and recycled materials.



### Acknowledgments

This document chronicles the event and highlights the creative efforts of our visiting professionals and students. We are extremely pleased with the results and are eagerly anticipating the next phases of project selection, refinement installation and dedication.

We especially want to thank the Sustainable Landscape Partnership for sponsoring the charrette and the many colleagues that assisted in organizing it. The steering committee members included:

John Crew USDA, Ed Murtagh, USDA; Ed Hogberg, USDA; Sarah Buikema, USDA; Dora Flores, USDA; Jim Bedwell, US Forest Service; Matt Arnn, US Forest Service, Project Leader; Linda Parker, US Forest Service; David Pivorunas, US Forest Service; Bob Snieckus, NRCS; Joan Feely, US National Arboretum; Bill McLaughlin, US Botanical Garden

Sincerely,

Matthew Arnn  
Acting Chief Landscape Architect  
US Forest Service  
Washington, DC

Robert Snieckus  
National Landscape Architect  
Natural Resources Conservation Service  
Washington, DC



USDA Assistant Secretary for Administration, Boyd Rutherford



Forest Service Recreation Director, Jim Bedwell



ATTENDEE NAME	ORGANIZATION
ARNN, MATTHEW	US FOREST SERVICE
BENENATI, ANDREW	UNIV OF MD
BEDWELL, JIM	US FOREST SERVICE
BONNETT, CAMERON	US FOREST SERVICE
CANALES, JAQUELINE	UNIV OF MD
COWNOVER, BRAD	SCENIC AMERICA
CRAWFORD, RALPH HOLIDAY	US FOREST SERVICE
CREW, JOHN	OFFICE OF OPERATIONS
CUNNINGHAM, CAROLINE	NATIONAL MALL TRUST
DELGADO, FIDEL	USDA
DETTMAN, SHANE	NATIONAL CAPITAL PLANNING COMM
ENGLISH, ANN	LOW IMPACT DEVELOPMENT CENTER
EWAN WALKER, ALICE	ALLIANCE FOR COMMUNITY TREES
FAHEY, JOSEPH	UNIV OF MD
FEELY, JOAN	US NATIONAL ARBORETUM
FELDMAN-GROSSE, AARON	RHODESIDE-HARWELL
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GOO, ROBERT	US EPA
GORDON, JOHN	UNIV OF MD
GRAVITZ, ADELE	ASLA
GUSEVICH, MIRIAM	CUA
HALL, ABBY	EPA
HARWELL, FAYE	RHODESIDE-HARWELL
HERNDON, MEG	VIRGINIA TECH
HILL, MICHAEL	VIRGINIA TECH
HOFFMANN, THOMAS	USDA
HOGBERG, EDWARD	USDA
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JESSUP, LUKE	PRESCOTT UNIV
IGLESIAS, KAREN	VIRGINIA TECH
KLOSS, CHRIS	LOW IMPACT DEVELOPMENT CENTER
KOVACH, LAUREN	UNIV OF MD
LALA, ANDREW	UNIV OF MD
LIGHTLE, JOHN	UNIV OF MD
MAI, RICH	UNIV OF MD
MANNING, GLORIA	US FOREST SERVICE
McINTYRE, LINDA	LANDSCAPE ARCHITECTURE MAGAZINE

ATTENDEE NAME	ORGANIZATION
McLAUGHLIN, BILL	US BOTANICAL GARDEN
MORGAN, ROBIN	US FOREST SERVICE
MURTAGH, EDWARD	USDA
MYERS, DAVID	UNIV OF MD
MYERS JACQUELINE	US FOREST SERVICE
OLDAKER, DONAL	UNIV OF MD
PALMER, ALLISON	UNIV OF MD
PARKER, LINDA	US FOREST SERVICE
PETERSON, KOL	US EPA
PIVORUNAS, DAVID	US FOREST SERVICE
PROTHRO, JOHN	UNIV OF MD
REED, JENNY	NATURAL RESOURCES DESIGN
RHODERICK, MATTHEW	UNIV OF MD
RHODESIDE, ELLIOT	RHODESIDE-HARWELL
RICHTER, LAUREN	UNIV OF MD
ROBINSON, SEAN	UNIV OF MD
ROLLEFSON, MARY	LANDSCAPE DESIGNER
ROSENOW, JOHN	ARBOR DAY FOUNDATION, CEO
ROSENOW, NANCY	DIMENSIONS ED RSCH FOUNDATION
RUTHERFORD, BOYD	USDA
SCHERR, MELISSA	UNIV OF MD
SCHNEIDER, RICK HARLAN	ENVISION DESIGN
SHANE, EDWARD BRENDAN	DC GOVERNMENT
SMITH, GLENN	MORGAN STATE UNIVERSITY
SMITH, RYAN	UNIV OF MD
SNIECKUS, ROBERT	NRCS
SNYDER, ROBIN	DC GOVERNMENT
SPAIN, SUSAN	NPS
SULLIVAN, JACK	UNIV OF MD
TURNER, EURIAL	US FOREST SERVICE
TJADEN, ROBERT	UNIV OF MD
TRAVAGLINI, MARY	THE NATURE CONSERVANCY OF MD/DC
UPCHURCH, MEREDITH	CASEY TREES
WEINSTEIN, NEIL	LOW IMPACT DEVELOPMENT CENTER
WHEELER, LAUREN	NATURAL RESOURCES DESIGN

LOCATION	FORM	SPECIES	COMMON NAME	LOCATION	FORM	SPECIES	COMMON NAME
Containers, south (Indep. Ave)	herbaceous	<i>PheMERanthus calycinus</i>	largeflower fameflower	NW Ivy slope, terraces	shrub, deciduous	<i>Xanthorhiza simplicissima</i>	yellowroot
Containers, south (Indep. Ave)	shrub, deciduous	<i>Rhus aromatica</i>	fragrant sumac	NW, behind corner sign	grass	<i>Buchloe dactyloides</i>	buffalo grass
Containers, south (Indep. Ave)	shrub, deciduous	<i>Rhus coppalinum</i>	winged sumac	NW, pondcypress swale (acid)	herbaceous	<i>Iris virginica</i>	southern blue flag
Containers, south (Indep. Ave)	shrub, deciduous	<i>Rhus glabra</i>	smooth sumac	NW, pondcypress swale (acid)	herbaceous	<i>Liatris spicata</i>	dense blazing star
Containers, south (Indep. Ave)	shrub, deciduous	<i>Rhus typhina</i>	staghorn sumac	NW, pondcypress swale (acid)	herbaceous	<i>Stokesia laevis</i>	Stoke's aster
Containers, south (Indep. Ave)	shrub, evergreen	<i>Yucca filamentosa</i>	Adam's needle	NW, pondcypress swale (acid)	shrub, deciduous	<i>Clethra alnifolia</i>	sweet pepperbush
southside beds (Indep. Ave)	tree, deciduous	<i>Ptelea trifoliata</i>	wafer ash, hoptree	NW, pondcypress swale (acid)	shrub, deciduous	<i>Fothergilla gardenii</i>	dwarf witchalder
southside beds (Indep. Ave)	tree, evergreen	<i>Juniperus virginiana</i>	Eastern redcedar	NW, pondcypress swale (acid)	shrub, deciduous	<i>Itea virginica</i>	Virginia sweetspire
NW Ivy Beds, among trees	herbaceous	<i>Claytonia virginica</i>	Spring beauty	NW, pondcypress swale (acid)	shrub, deciduous	<i>Rhododendron viscosum</i>	clammy azalea
NW Ivy Beds, among trees	herbaceous	<i>Galanthus</i>	Snowdrops	NW, pondcypress swale (acid)	shrub, deciduous	<i>Vaccinium corymbosum</i>	highbush blueberry
NW Ivy Beds, among trees	herbaceous	<i>Mertensia virginica</i>	Virginia bluebells	NW, pondcypress swale (acid)	shrub, evergreen	<i>Ilex glabra (compact forms)</i>	inkberry holly
NW Ivy Beds, among trees	herbaceous	<i>Narcissus</i>	Daffodil	NW, pondcypress swale (acid)	shrub, evergreen	<i>Vaccinium macrocarpon</i>	cranberry
NW Ivy Beds, among trees	herbaceous	<i>Sanguinaria canadensis</i>	bloodroot	NW, 'Sophora Grove'	shrub, deciduous	<i>Hamamelis virginiana</i>	witchhazel
NW Ivy Beds, among trees	herbaceous	<i>Stylophorum diphyllum</i>	celandine poppy	NW, 'Sophora Grove'	shrub, evergreen	<i>Ilex vomitoria</i>	yaupon
NW Ivy Beds, between trees	herbaceous	<i>Aster cordifolius (Symphyotrichum c.)</i>	common blue wood aster	NW, 'Sophora Grove'	tree, deciduous	<i>Amelanchier sp.</i>	serviceberry
NW Ivy Beds, between trees	herbaceous	<i>Aster divaricata (Eurybia d.)</i>	white wood aster	NW, 'Sophora Grove'	tree, deciduous	<i>Asimina trifoliata</i>	pawpaw
NW Ivy Beds, between trees	herbaceous	<i>Carex plantaginea</i>	seersucker sedge	NW, 'Sophora Grove'	tree, deciduous	<i>Magnolia acuminata</i>	cucumber tree
NW Ivy Beds, between trees	herbaceous	<i>Carex platyphylla</i>	broadleaf sedge	NW, 'Sophora Grove'	tree, deciduous	<i>Ostrya virginiana</i>	hophornbeam
NW Ivy Beds, between trees	herbaceous	<i>Dicentra eximia</i>	bleeding heart	NW, 'Sophora Grove'	tree, evergreen	<i>Ilex opaca</i>	American holly
NW Ivy Beds, between trees	herbaceous	<i>Dryopteris marginalis</i>	leatherwood fern	NW, 'Sophora Grove'	tree, evergreen	<i>Prunus caroliniana</i>	Carolina laurelcherry
NW Ivy Beds, between trees	herbaceous	<i>Epimedium sp./hybrids</i>	barrenwort	NW, swale/raingarden	grass	<i>Panicum virgatum</i>	switchgrass
NW Ivy Beds, between trees	herbaceous	<i>Geranium maculatum</i>	wild geranium	NW, swale/raingarden	herbaceous	<i>Allium cernuum</i>	nodding onion
NW Ivy Beds, between trees	herbaceous	<i>Gillenia trifoliata</i>	Bowman's root	NW, swale/raingarden	herbaceous	<i>Asclepias incarnata</i>	swamp milkweed
NW Ivy Beds, between trees	herbaceous	<i>Iris cristata</i>	crested wood iris	NW, swale/raingarden	herbaceous	<i>Carex muskingumensis</i>	palm sedge
NW Ivy Beds, between trees	herbaceous	<i>Jeffersonia diphylla</i>	twingleaf	NW, swale/raingarden	herbaceous	<i>Helianthus angustifolius</i>	narrowleaf sunflower
NW Ivy Beds, between trees	herbaceous	<i>Phlox divaricata</i>	wild blue phlox	NW, swale/raingarden	herbaceous	<i>Iris virginica</i>	southern blue flag
NW Ivy Beds, between trees	herbaceous	<i>Polystichum acrostichoides</i>	Christmas fern	NW, swale/raingarden	herbaceous	<i>Liatris spicata</i>	dense blazing star
NW Ivy Beds, between trees	herbaceous	<i>Scutellaria serrata</i>	showy scullcap	NW, swale/raingarden	shrub, deciduous	<i>Clethra alnifolia</i>	sweet pepperbush
NW Ivy slope, terraces	herbaceous	<i>Carex flaccosperma</i>	thinfruit sedge	NW, swale/raingarden	shrub, deciduous	<i>Itea virginica</i>	Virginia sweetspire
NW Ivy slope, terraces	herbaceous	<i>Heuchera americana</i>	alumroot	NW, swale/raingarden	shrub, evergreen	<i>Ilex glabra (compact forms)</i>	inkberry holly
NW Ivy slope, terraces	herbaceous	<i>Sedum ternatum</i>	woodland stonecrop				
NW Ivy slope, terraces	shrub, deciduous	<i>Calycanthus floridus</i>	Carolina allspice				
NW Ivy slope, terraces	shrub, deciduous	<i>Hydrangea arborescens</i>	wild hydrangea				
NW Ivy slope, terraces	shrub, deciduous	<i>Lindera benzoin</i>	spicebush				
NW Ivy slope, terraces	shrub, deciduous	<i>Symphoricarpos orbiculatus</i>	coralberry				
NW Ivy slope, terraces	shrub, deciduous	<i>Viburnum acerifolium</i>	maple-leaf viburnum				

Whitten NW Zone Recommended Plants  
(Source: Bill McLaughlin, US Botanical Garden)