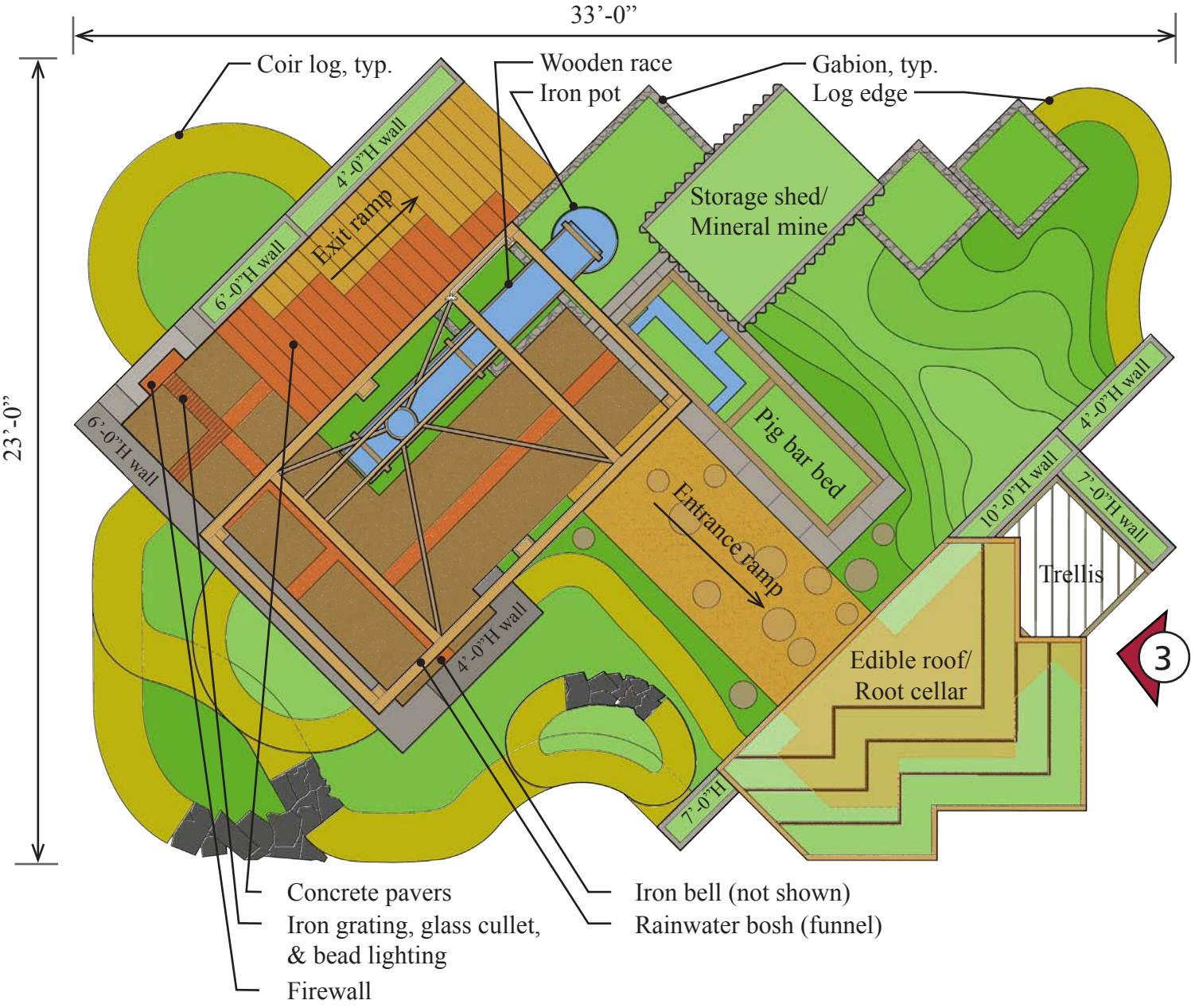
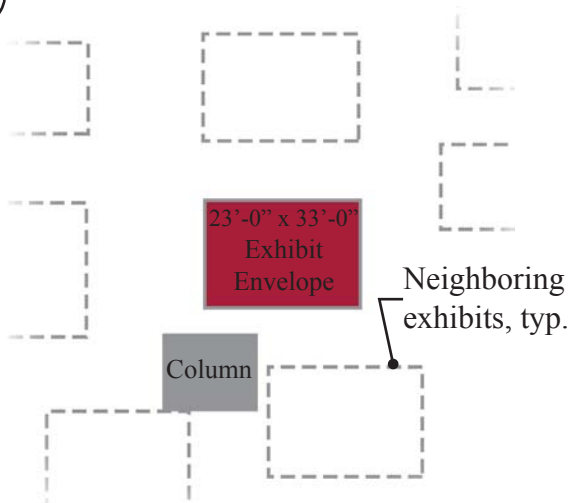


1 Exhibit Rendered Plan

Not to Scale



2 Exhibit Context Plan

Not to Scale

Exhibit Logo. Inspired by the shape and patterns on Hopewell Furnace stove plates, the exhibit logo simply depicted the furnace and iron pig bar bed. By doing so, we inherently related our exhibit to the surrounding landscape from which ore was mined, water was gathered, and hardwoods were harvested for charcoal.

AFTER THE BLAST

RECOLLECTING ROOTS & RESOURCES AT HOPEWELL FURNACE

The 2016 PHS Philadelphia Flower Show, "Explore America: 100 Years of the National Park Service," occurred between 5 and 13 March 2016. Following is the text that was written to convey our exhibit theme.

View 3. Exhibit entrance: Looking beneath the edible roof and into the root cellar.

DESIGN INTENT

Overall Design Concept

We explore the heft, handiwork, and intimate life with the land that is inherent in our regional industrial heritage.

Horticultural Concept

Foodstuff is grown, gathered, and stored. Plants isolated from disease and development receive attention, as do pioneer plants that signify resourcefulness and perseverance.

Expected Impact on Visitors

Visitors will appreciate 19th century methods of energy, resource, and ecosystem conservation, and be motivated to explore our regional heritage by visiting Hopewell Furnace.

AWARDS

National Park System Director's Award

Awarded to the exhibit with the best interpretation of a National Park in the 2016 PHS Philadelphia Flower Show.

PHS Gold Medal

PHS Gold Medal Award

Best use of PHS Gold Medal Plants in a major exhibit.

Special Achievement Award of the Garden Club Federation of Pennsylvania

The category of conservation.

AWARDS

PHS Sustainability Award
Educational major exhibitor demonstrating the best use of sustainable gardening practices to the public.

Pennsylvania Landscape and Nurseryman's Association Trophy.
Awarded to the exhibit showing the most effective use of plants and best use of design in the education category.

Philadelphia Unit of the Herb Society of America, Inc., Award
Awarded for an outstanding use of herbs or an individual specimen herb. A total of nine ribbons may be awarded.

EXHIBIT PHS SIGN TEXT

Beside a spring and beneath an edible garden, a store of cold roots and fruit await retrieval. Exit and emerge among native trees rising from a floor of mast, downed wood, and rock. Far afield, scarred stumps bleach in the sun; flowers and ferns reach upward and out; sawdust surrounds saplings. Hear water gurgle, hush, and splash from within a darkened, stonewalled source. Find the furnace filled with foliage afire! Recover our past; consider the future.

INTRODUCTION TO SHOW VISITORS

Shot, shells, and cannon cast at Hopewell fired upon Redcoats during the Revolutionary War. Stoves warmed homes and stoked women's suffrage. Former slaves stepped off the Underground Railroad, worked for wages, and owned land. No matter the shape or size, every furnace form included one long-lasting ingredient—Freedom! Our exhibit recalls how ordinary life at Hopewell may inspire independence.

Plantation Life

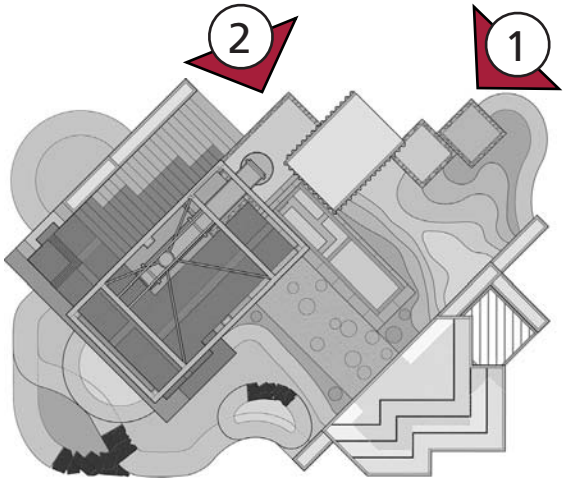
Life on an iron plantation like Hopewell mostly relied on renewable energy from water and charcoal. Food that was grown, harvested, and stored nearby fueled animal and human power. With this in mind, we re-imagined four 19th century elements:

- Root cellar & kitchen garden
- Oak-Chestnut forest
- Rainwater races
- Furnace walls

Recollecting Hopewell

Laborers at Hopewell gathered and readied natural materials for smelting; furnace workers transformed them into durable products. Our exhibit illustrates what we gathered from Hopewell and how we all can work together to produce a resilient landscape.

- Grow, gather, and store foodstuff with little to no energy
- Protect "natural" areas from development
- Harvest, infiltrate, and slow rainwater runoff
- Reduce waste, recycle, and reuse materials



View 1. Looking into the "stumpery" with the root cellar at left and storage shed at right.

View 2. Looking toward the exhibit exit ramp and rainwater bosh, with the storage shed at left.

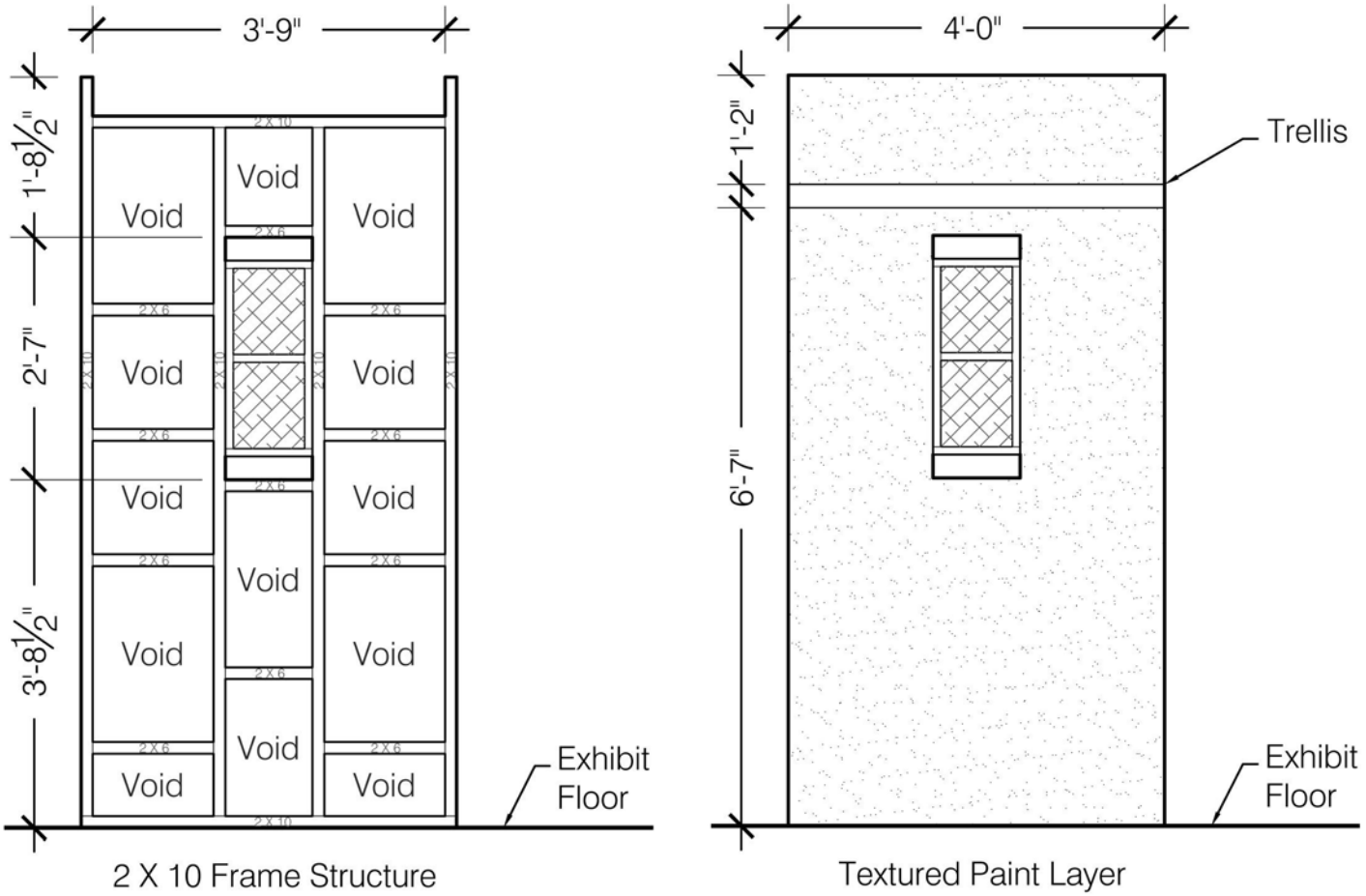
ROOT CELLAR

GROW, GATHER, & STORE FOOD AT HOME

Vegetable, herb, and dye gardens supported the Hopewell community. An orchard yielded oodles of apples, along with potatoes, oats, and corn. Residents preserved and stored food in a springhouse and, probably, a root cellar.

Today, food travels far afield to our plates and is stored in refrigerators and freezers. Let's cool it!

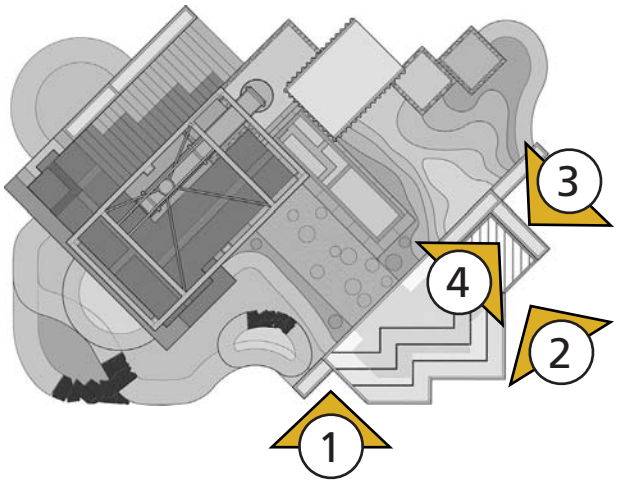
Grow vegetables and fruit-bearing trees in gardens, or on the roof. Store food in a cellar. Doing so decreases energy use, whether to grow, transport, and store food, or heat and cool your home.



4 Cellar Wall #12 Framing and Cladding Elevations

Author: C. Onder

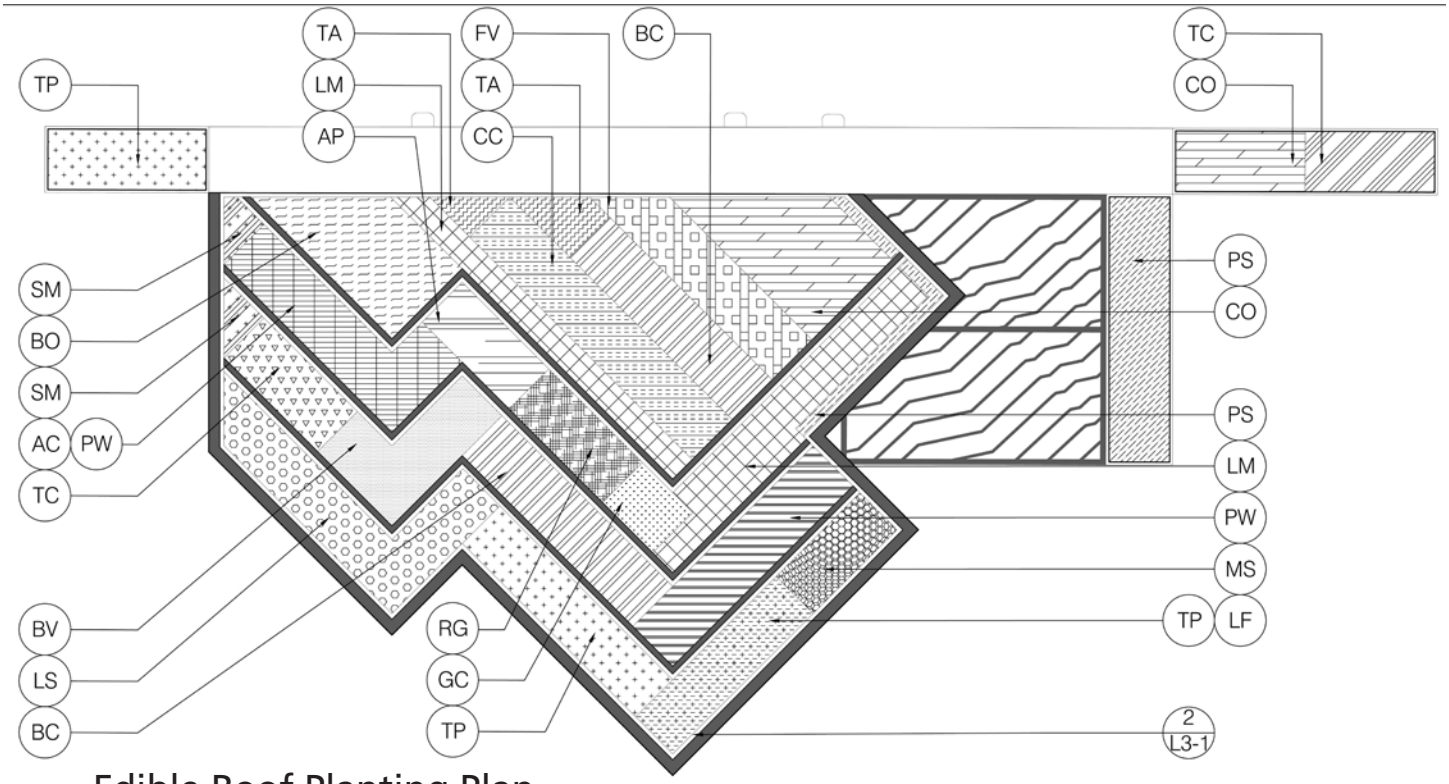
Not to Scale



View 1. Orchard baskets held fruits, vegetables, and herbs outside the cellar.

View 2. Peas stretched across a trellis containing birch tree branches above the exhibit entrance.

Views 3 & 4. A window made of iron floor registers offered a screened view into and out of the cellar.



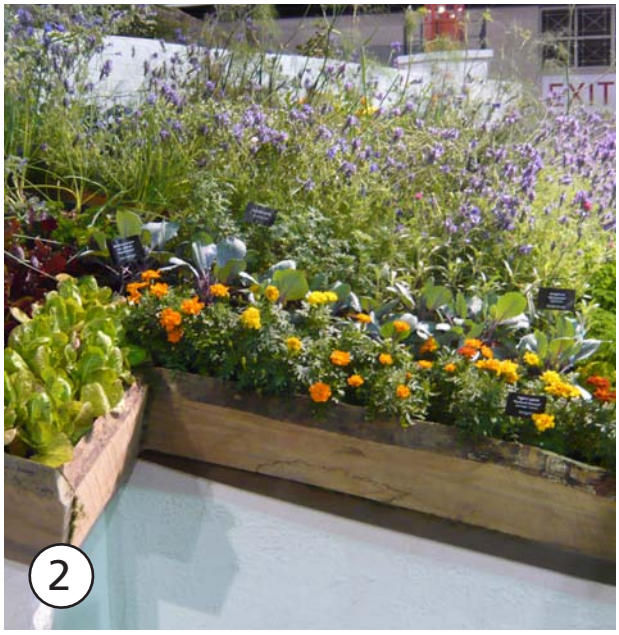
1 Edible Roof Planting Plan

Author: D. Berger

Not to Scale

Edible Roof Plant Schedule

Abv.	Latin Name	Common Name
AM	Alchemilla mollis	Lady's Mantle
AG	Allium 'Guardsman'	Bunching Onion
AC	Allium cepa 'Pumba'	Hybrid Yellow Onion
AP	Allium porrum 'King Richard'	Leek
AT	Allium tuberosum	Garlic Chives
AO	Asparagus officinalis 'Jersey Knight'	Asparagus
BV	Beta vulgaris 'Bull's Blood'	Beet
BO	Borago officinalis	Borage
BC	Brassica oleracea var. capitata 'Red Express'	Red Cabbage
CO	Calendula officinalis 'Alpha'	Pot Marigold
CC	Centaurea cyanus 'Florist Blue Boy'	Cornflower
FV	Foeniculum vulgare 'Purpureum'	Bronze Fennel
GC	Gomphrena 'QIS Carmine'	Button Flower
LS	Lactuca sativa 'Escale'	Bibb Lettuce
LF	Lactuca sativa 'Fenberg'	Romaine Lettuce
LW	Lactuca sativa 'Winter Density'	Bibb Lettuce
LM	Lavandula multifida	Fern-Leaf Lavender
MS	Mentha suaveolens	Apple Mint
PW	Petroselinum crispum 'Wega'	Parsley
PS	Pisum sativum 'Super Sugar Snap'	Snap Peas
RO	Rosmarinus officinalis Prostratus Group	Prostrate Rosemary
RG	Ruta graveolens	Common Rue
SM	Sanguisorba minor	Salad Burnet
TP	Tagetes patula Outback	Marigold
TB	Tanacetum balsamita	Costmary
TA	Tanacetum parthenium	Feverfew
TC	Thymus citriodorus 'Argenteus'	Silver Thyme
VH	Viola 'Helen Mount'	Johnny Jump-Up



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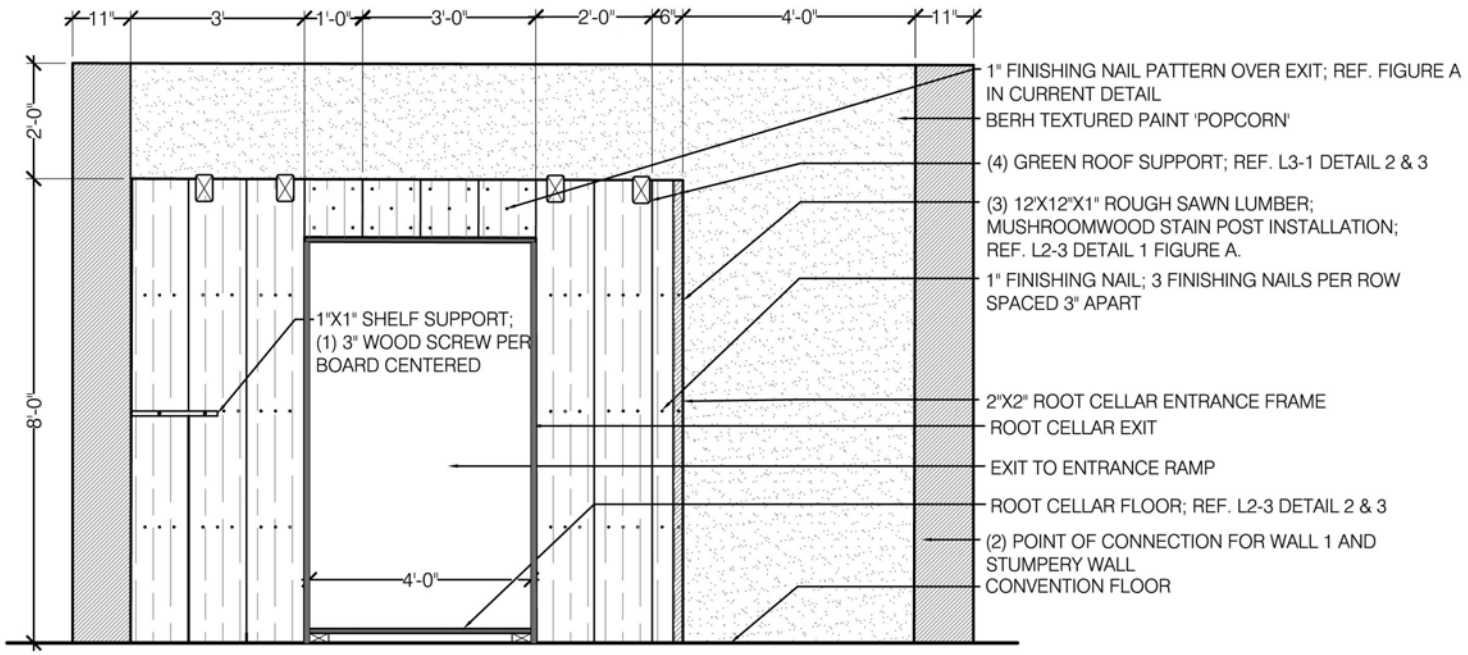
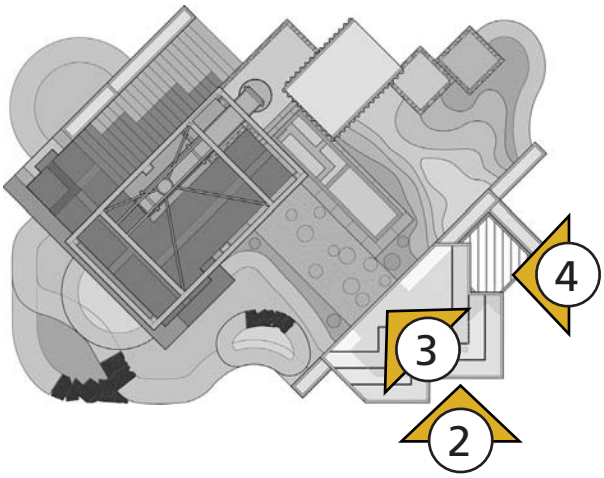


3 Root Cellar Interior Wall Elevation Looking Into Exhibit

Author: D. Berger

Not to Scale

4



View 2. Plainsawed black walnut logs served as the fascia of the edible roof, which contained leafy and root vegetables, as well as, herbs.

View 4. The root cellar contained baskets of fruit and tree mast, ceramic jugs and jars, tools of the period, and lanterns. Creaks and hollow sounds created by an elevated wooden floor contributed to the ambiance.

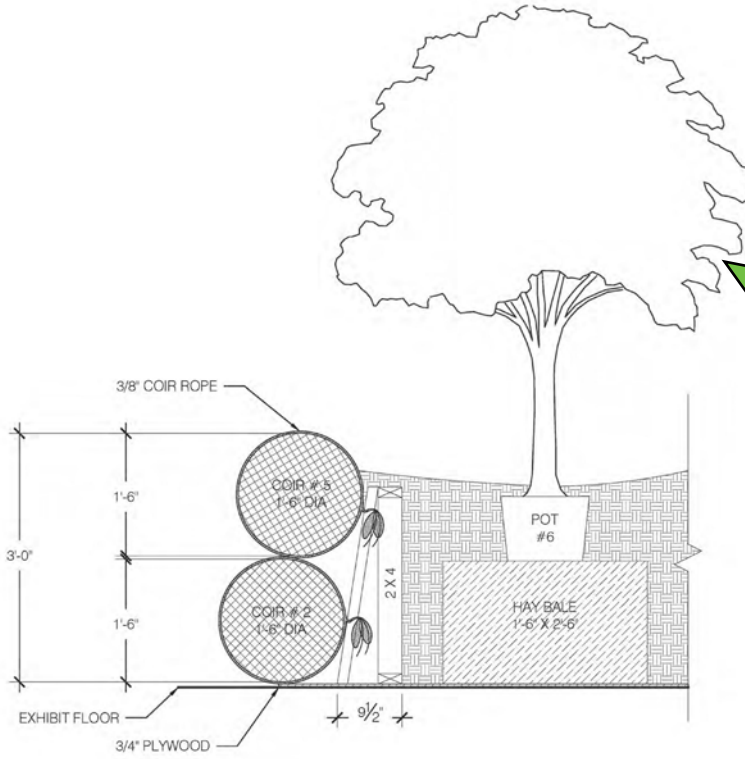
REMNANT FOREST

PROTECT, RESTORE, & CREATE FORESTS

Ancient, old growth oak, chestnut, hickory, and beech trees once provided food aplenty to wildlife and the Lenni-Lenape.
When Hopewell Furnace was in blast, woodcutters selectively cut trees to make charcoal. While keeping livestock from eating new growth, saplings and seed producers that remained regenerated the forest.

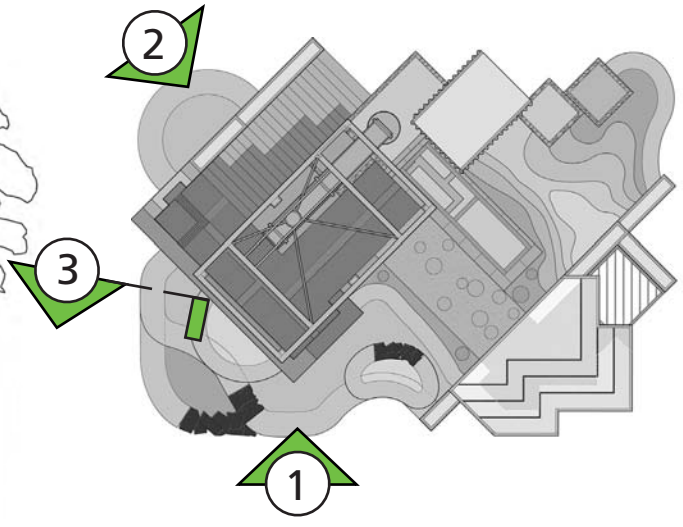
Beyond Hopewell, logging, development, and other human disturbances have disturbed, degraded, or destroyed ancient forests. That's nuts!

Protect all remaining old growth forests, and new ones.
Restore disturbed or degraded forests. Create new forests—at home, in rural, suburban, and urban areas.



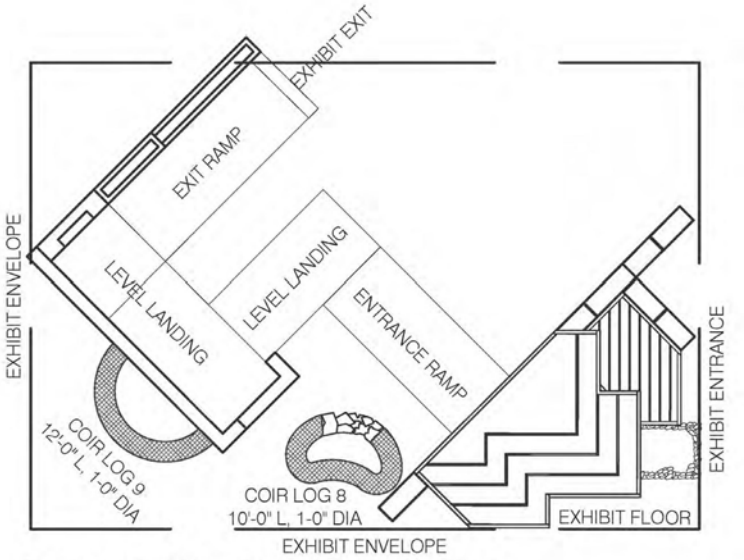
3 Typical Two-Course Coir Log Section

Author: C. Onder Not to Scale



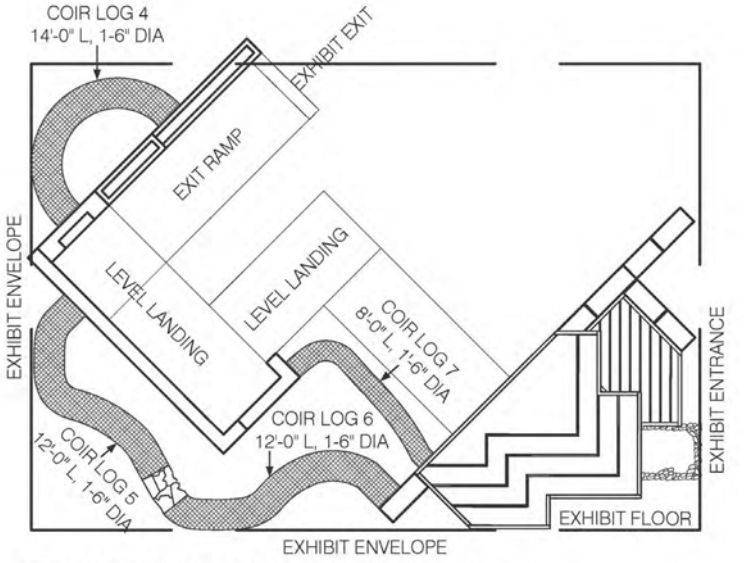
View 1. Coir logs allowed for sudden changes in elevation at which plants were displayed, and create a sinuous exhibit edge. Blue gels were added to theatrical lighting to help depict shade and vegetative density in this exhibit area.

View 2. Two courses of coir logs with separate, different layouts created niches for plants. Stone was also integrated to make the edge more diverse.



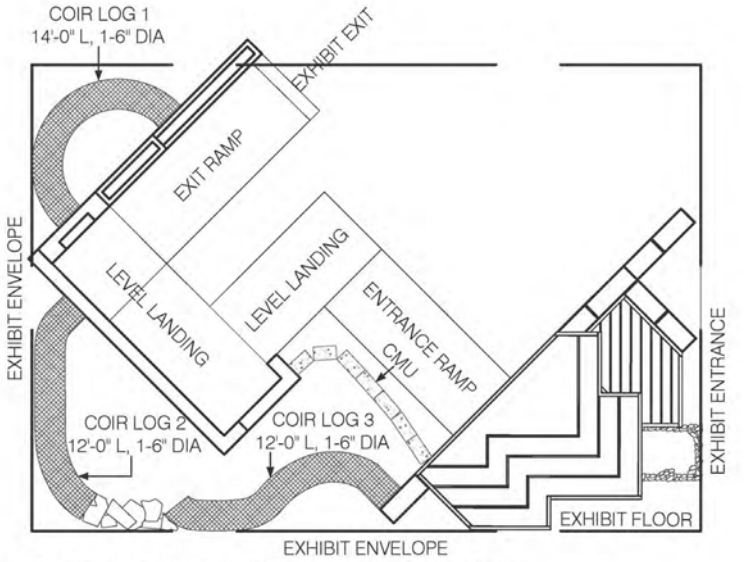
1 Coir Log Plan, Top Course

Author: C. Onder Not to Scale



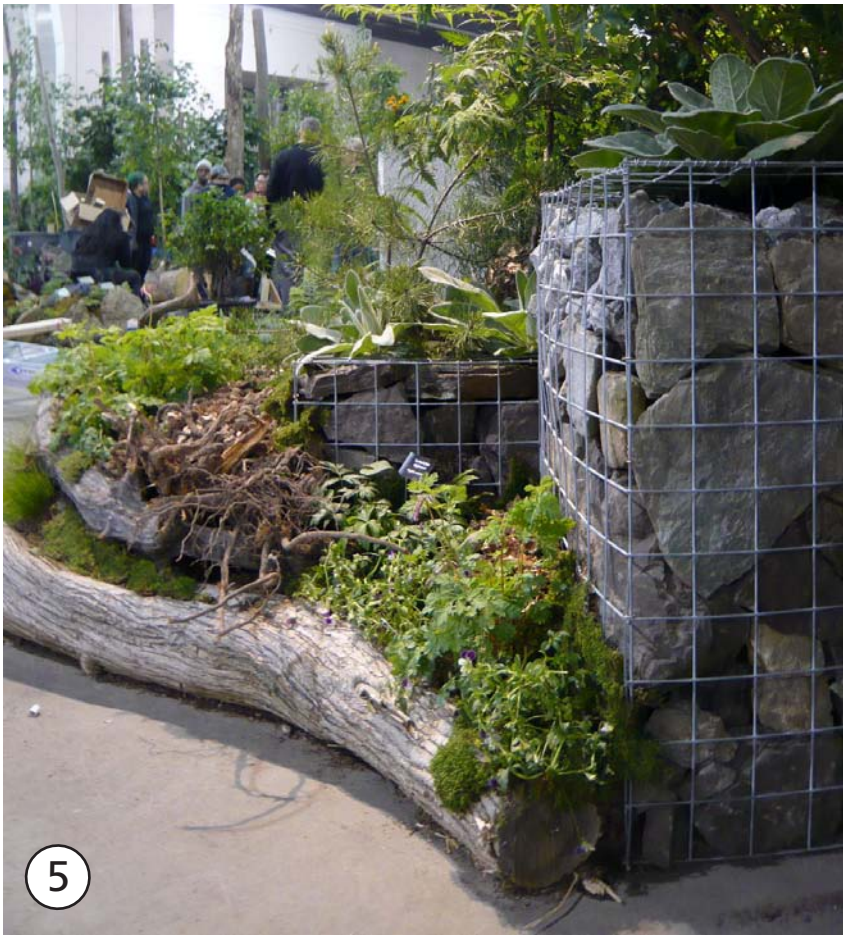
2 Coir Log Plan, Middle Course

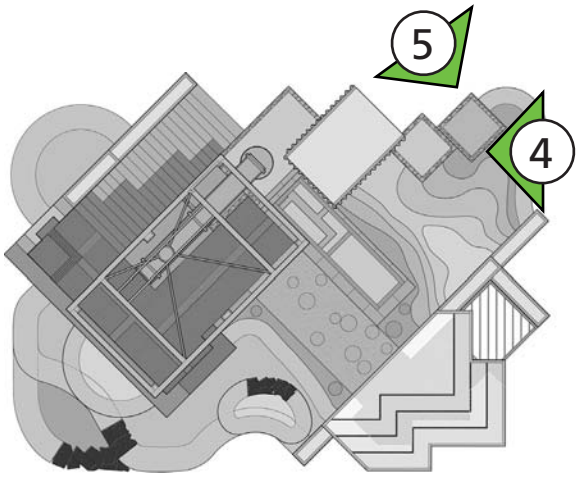
Author: C. Onder Not to Scale



3 Coir Log Plan, Bottom Course

Author: C. Onder Not to Scale





View 4. Sun-loving plants, stumps or logs, mast, and a hornet's nest were included in the "stumpery" area of the remnant forest.

View 5. Besides coir logs, we found and included sinuous boughs or logs as exhibit edges.

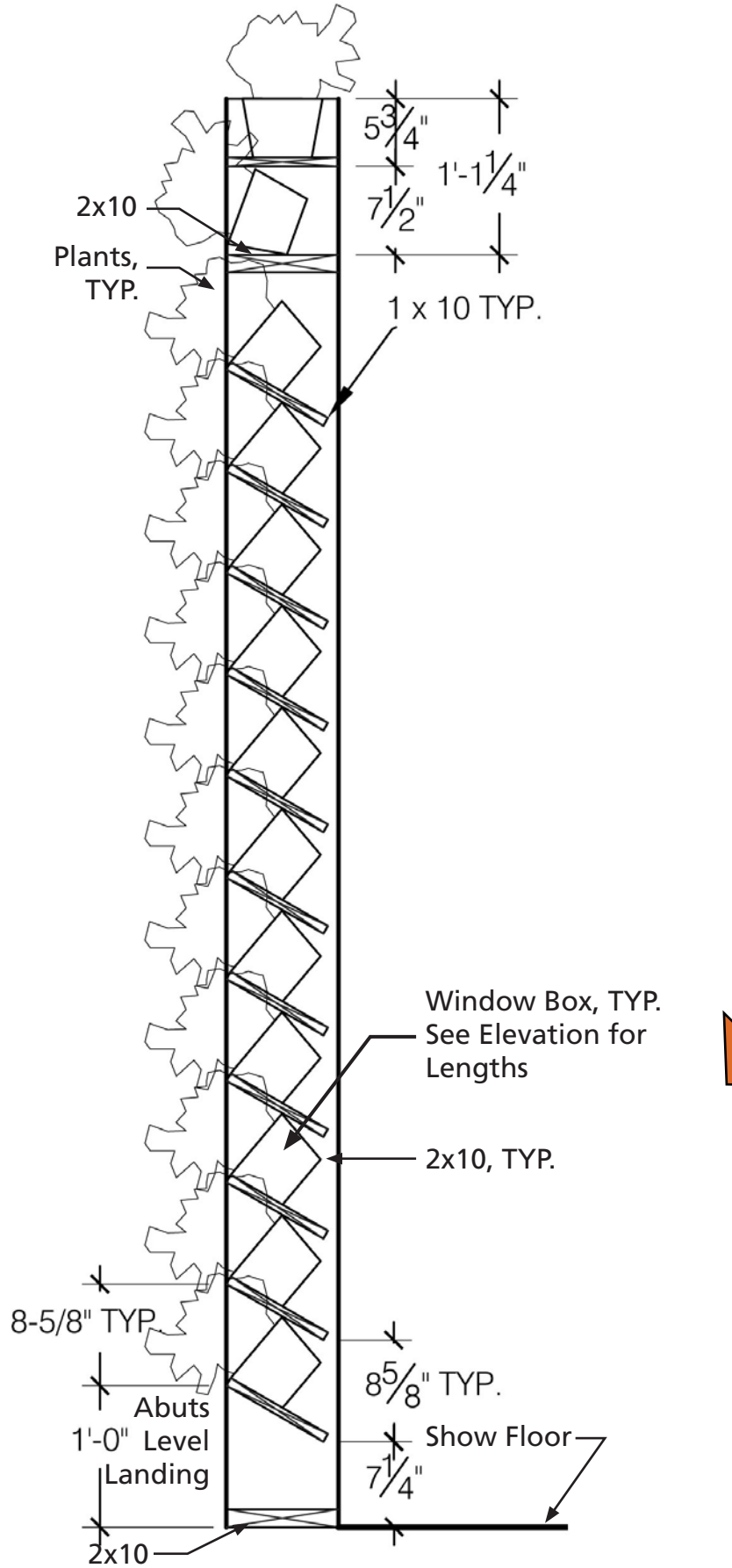
FURNACE WALLS

INSTALL GREEN WALLS & ROOFS

Fillers continuously dumped iron ore, limestone, and charcoal into the furnace. As they melted, gases traveled up and out of the chimney, along with soot, which covered everything at Hopewell.

Today, gases we send continuously into the air are changing the global climate. Roofs and pavement have replaced plants, absorb and reflect the sun's radiation, and heat up our cities.

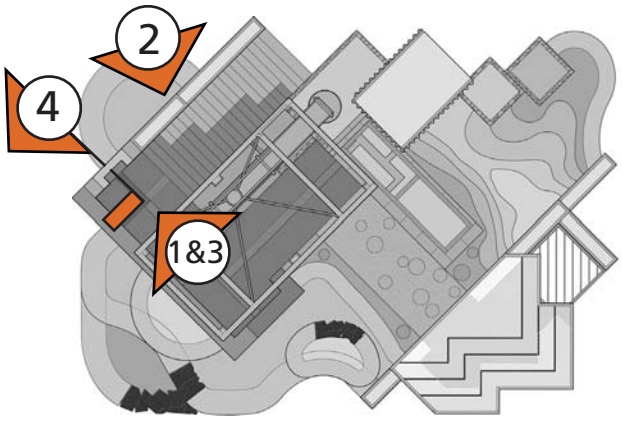
Let's keep from melting. Planting roofs, walls, and ground planes can cool our cities. When making concrete, replace Portland Cement with slag or fly ash to reduce the creation of harmful gases that result.



4 Firewall Section

Author: L. Vasquez

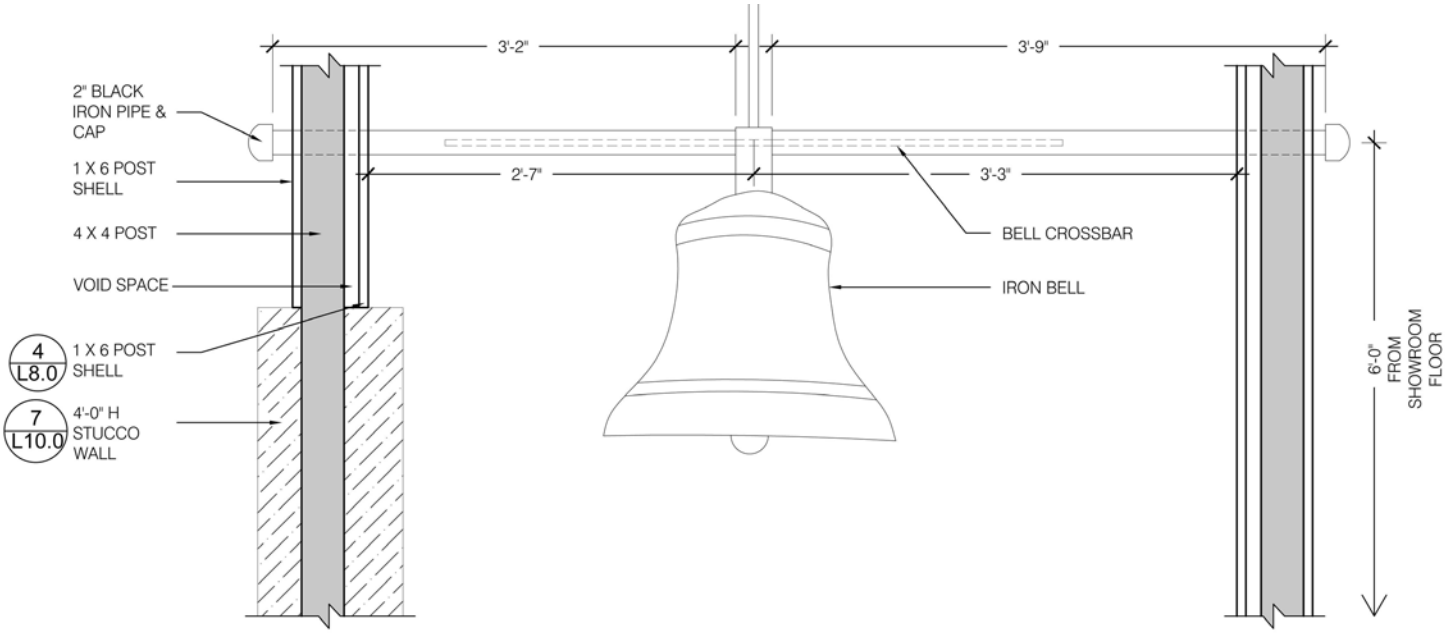
Not to Scale



View 1. Bead lighting beneath amber glass cullet and steel grating near the base of the firewall recalled molten iron "tapped" from the furnace.

View 2. Concrete pavers on the level landing recalled the iron pig bar pattern made by gutterman. Wall heights increased incrementally toward the firewall, and stone beneath the bell mirrored the presence of stone on the firewall.

View 3. We modelled the figure of the firewall after the form of the furnace interior.



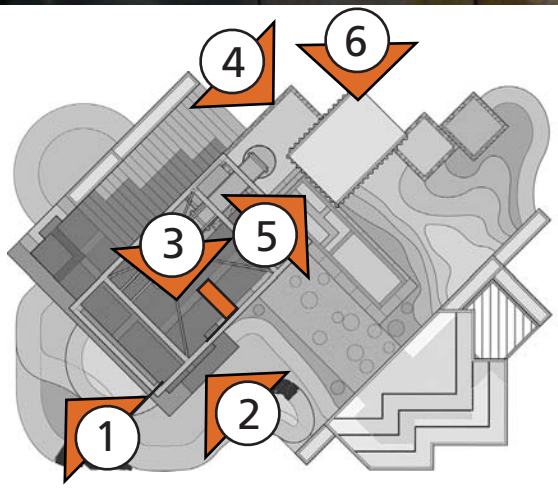
1 Iron Bell & Bosh Post Assembly Section

Author: D. Suomi

Not to Scale

2

3

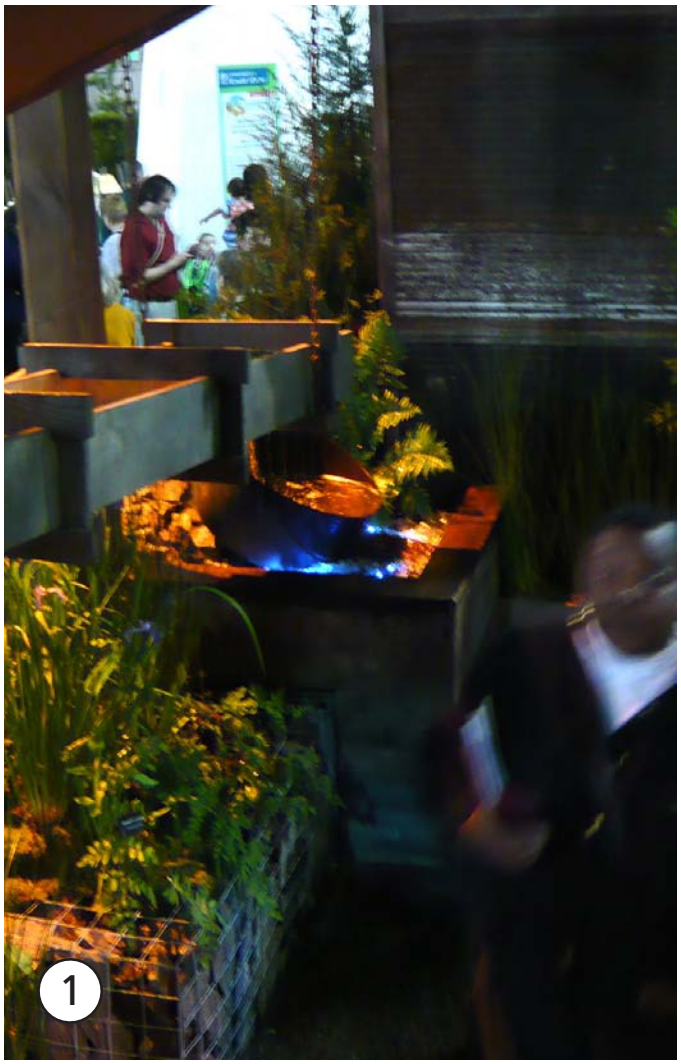


View 2. Visitors regularly rung the iron bell, which was aligned with the center of the firewall. At Hopewell, a bell signaled that the furnace was ready to be tapped.

View 3. The landing and walls accomodated space for bell ringing.

Views 4 and 5. Horizontal layers of sheet metal represented the strata revealed while mining for iron ore.

View 6. Tree seeds in hardware cloth depicted the organic soil horizon on top of the material shed.



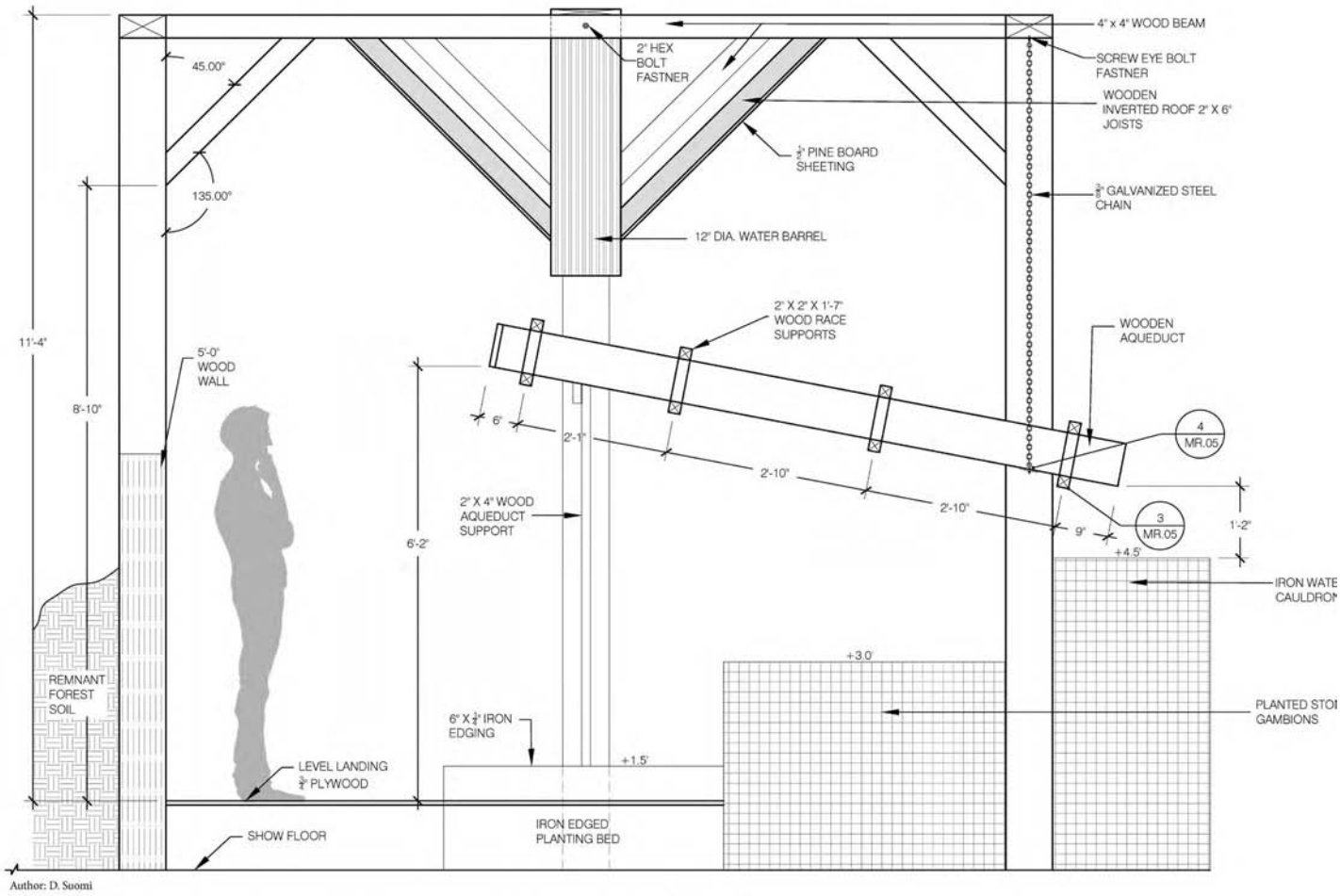
WATER RACE

CAPTURE, INFILTRATE, & SLOW RAINWATER

Hopewell's builders diverted rainwater into channels called races. Water fell onto and turned a water wheel, which pumped pistons and blasted air into the furnace to raise the temperature high enough to turn ore into iron.

Our streets, driveways, curbs, and drains divert rainwater, too. Rainwater races into them, contributes to flooding and erosion, and causes property damage.

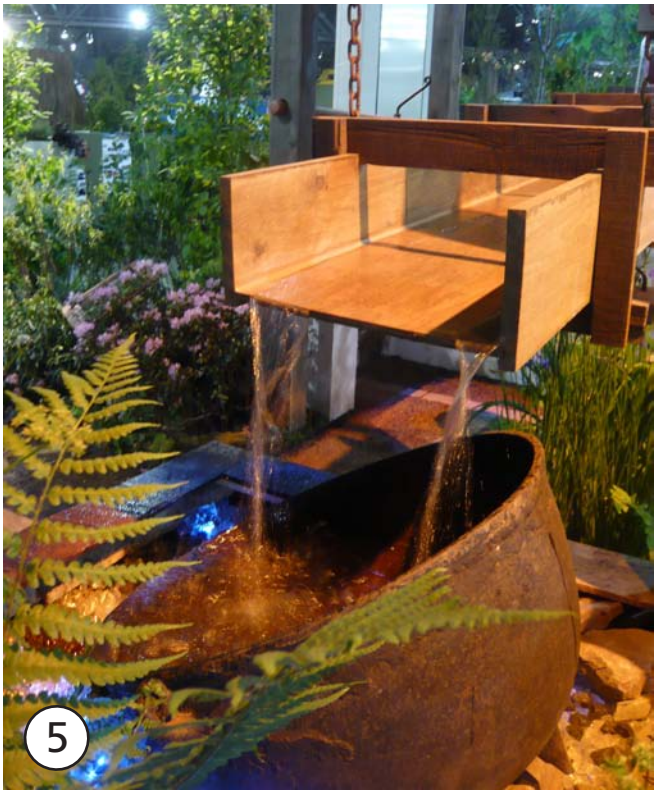
So, race out and get barrels to capture and reuse rainwater at home. Hurry! Put down pavement that slows rain and lets it seep in. Dash away and build a rain garden. Go! Get a green roof.



4 Bosh and Water Race Section Looking Toward Firewall

Author: D. Suomi

Not to Scale



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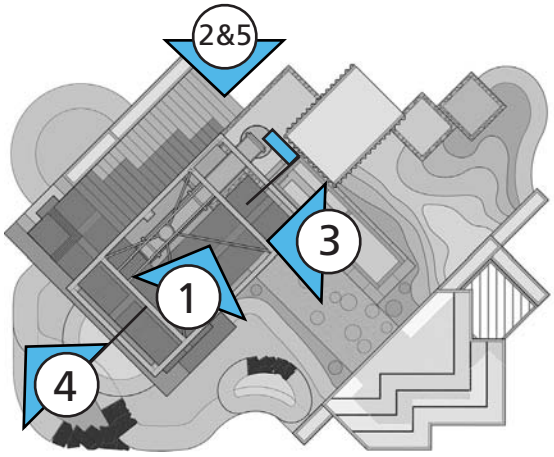
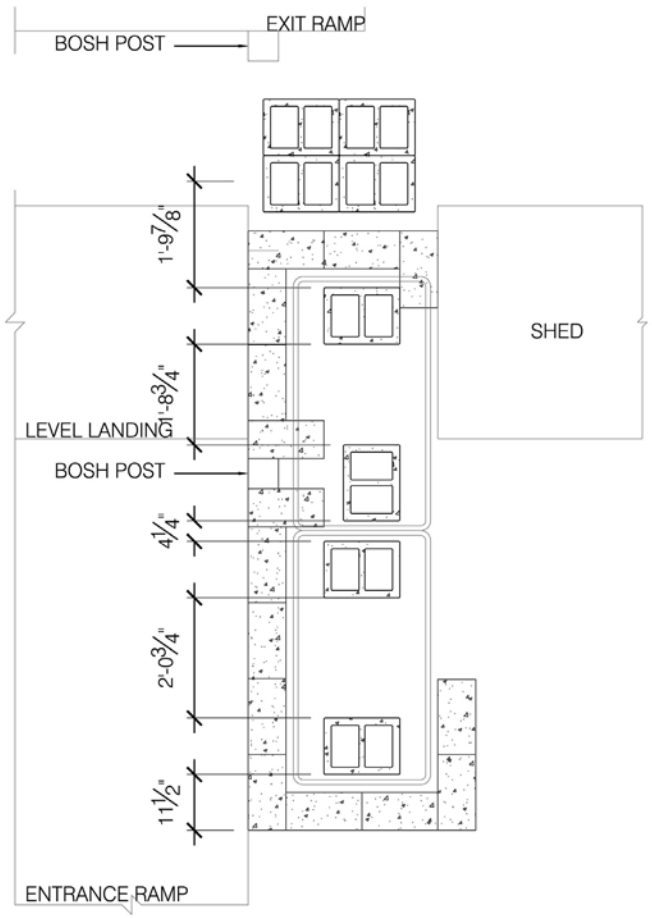


Views 1 & 2. Visitors walked beneath, around, and beside the water bosh and race before exiting.

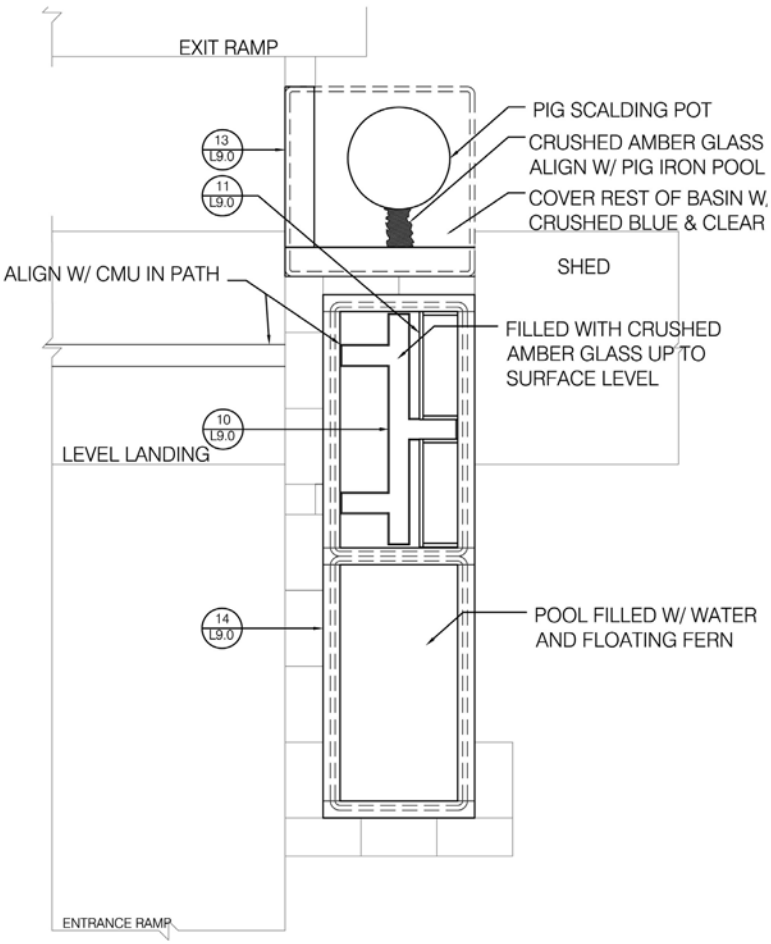
View 3. The bosh "captured" and directed rain water onto a wooden race.

View 4. The race, suspended by iron chains, directed water into an iron pig scalding pot that was tilted to mimic the pouring of molten iron into a pig bar bed formed by a gutterman.



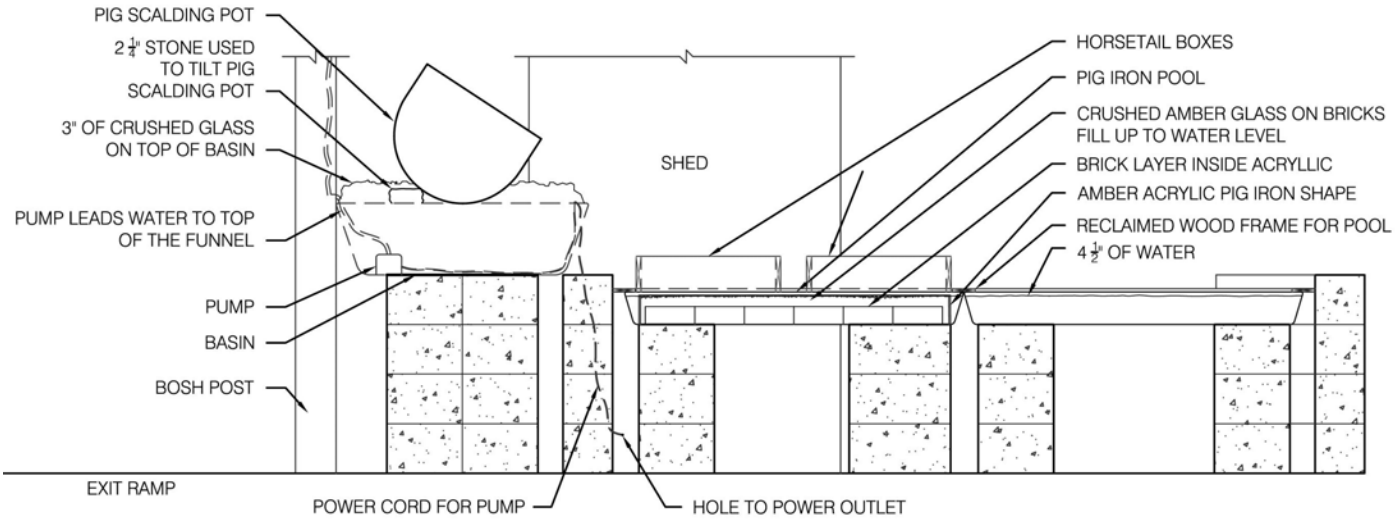
1 Pig Bar Bed CMU Location Plan

Author: A. Monaco Not to Scale



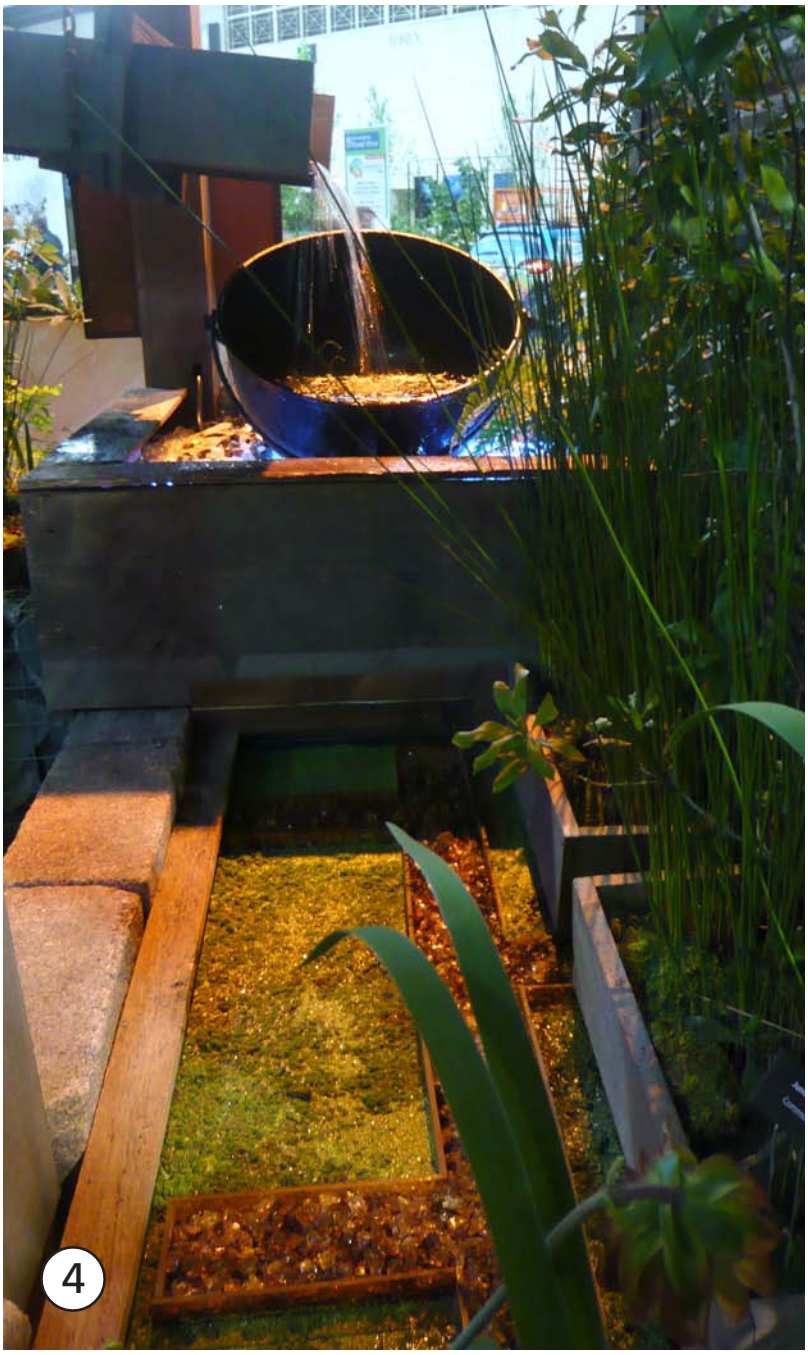
2 Pot & Pig Bar Bed Plan

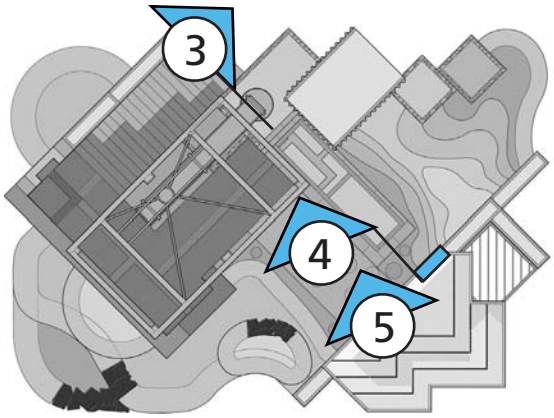
Author: A. Monaco Not to Scale



3 Pot & Pig Bar Bed Section Looking Toward Storage Shed

Author: A. Monaco Not to Scale





View 4. Water spilled from the iron pot into gutters of crushed glass like molten iron. Additionally, the water seeped into the glass cullet and related to rain water infiltration. The lower pig bar bed, made of amber glass cullet surrounded by acrylic, symbolized both the iron pig bar bed, as well as, the dendritic pattern of waterways.

View 5. Concrete masonry unit (CMU) blocks around the pig bar bed were recovered from campus and used in a previous exhibit. The color, strength, and ease with which they could be placed were desirable traits.

AFTER THE BLAST

2016 PHS PHILADELPHIA FLOWER SHOW

FOREST DWELLERS TO PROTECT & RESTORE

Amelanchier laevis	Allegheny Serviceberry
Carpinus caroliniana	American Hornbeam
Castanea dentata	American Chestnut
Castanea pumila	Allegheny Chinkapin
Cercis canadensis	Eastern Redbud
Fagus grandifolia	American Beech
Ilex verticillata	Winterberry Holly
Kalmia latifolia	Mountain Laurel
Nyssa sylvatica	Black Tupelo
Pinus strobus	White Pine
Quercus alba	White Oak
Quercus prinus	Chestnut Oak
Quercus rubra	Red Oak
Rhododendron maximum	American Rosebay
Rhododendron minus	Piedmont Rhododendron
Viburnum dentatum	American Arrowwood

PLANTS THAT PIONEER & PERSEVERE

Campsis radicans	Trumpet Vine
Comptonia peregrina	Sweet Fern
Dennstaedtia punctilobula	Hay-Scented Fern
Dicentra spp.	Bleeding Heart
Dryopteris marginalis	Leather Wood Fern
Hydrophyllum virgnianum	Virginia Waterleaf
Juniperus virginiana	Eastern Redcedar
Morella pensylvanica	Bayberry
Pinus rigida	Pitch Pine
Pinus virginiana	Virginia Pine
Polemonium reptans	Jacob's Ladder
Verbascum thapsus	Common Mullein
Zizia aurea	Golden Alexander

TEMPLE UNIVERSITY

DEPARTMENT OF LANDSCAPE ARCHITECTURE & HORTICULTURE

AFTER THE BLAST

2016 PHS PHILADELPHIA FLOWER SHOW

FOR BEDS FILLED WITH RAINWATER

Azolla caroliniana	Mosquito Fern
Cornus sericea	Red Osier Dogwood
Equisetum hyemale	Winter Scouring Rush
Iris versicolor	Blue Flag
Juncus effusus	Common Rush
Lemna minor	Common Duckweed
Osmunda regalis	Royal Fern
Pontederia cordata	Pickerel Weed
Sarracenia leucophylla	White Pitcher Plant

FIERY FOLIAGE FOR ROOFS, WALLS, & GROUNDS

Ajuga reptans	Bugleweed
Carex oshimensis	Sedge
Heuchera spp.	Coral Bells
Ipomoea batatas	Sweet Potato Vine
x Heucherella spp.	Heucherella

GROW, GATHER, EAT, OR STORE

Alchemilla mollis	Lady's Mantle
Allium tuberosum	Garlic Chives
Borago officinalis	Borage
Brassica oleracea	Red Cabbage
Foeniculum vulgare	Bronze Fennel
Lavandula multifida	Fern Leaf Lavender
Mentha suaveolens	Apple Mint
Petroselinum crispum	Parlsey
Phaseolus coccineus	Scarlet Runner Bean
Ruta graveolens	Common Rue
Sanguisorba minor	Salad Burnet
Tanacetum balsamita	Costmary

TEMPLE UNIVERSITY

DEPARTMENT OF LANDSCAPE ARCHITECTURE & HORTICULTURE

Double-sided Abbreviated Exhibit Plant List Card

Available to show visitors; originally 4" wide X 9" high

Photography by Joseph Labolito, Temple University.

PROJECT CREDITS

Faculty and Staff: Rob Kuper, Associate Professor of Landscape Architecture; Michael LoFurno, Adjunct Assistant Professor of Landscape Architecture; Anne Brennan, Horticultural Supervisor; Kathryn Reber, Staff Horticulturist; Merrill Miller, Staff Horticulturist.

Junior students (design-build studio): Daniel Berger, Iyanna Crawley, Di Huang, Aniela Knauff, Andrew Monaco, Christopher Onder, Derek Suomi, Lindsey Vasquez.

Senior students (truck driving/loading**):** Peter Bianco, Liam Cleary, Zach Cook, Brian Pannepacker, Sean Smith, Gary Schneider.

Graduate students (painting, staining, miscellaneous): Jing Bian, Kristen Winters.

Horticulture student workers: Rick DiPietro, Rob Gladfelter, Brian Pannepacker, Dhan Parker.

Alumni: Dennis Murphy, Class of 2012.