We incorporated rectangles because the Dutch landscape is organized into polders, long rectangles of land that have been reclaimed from the sea. Each rectangle in the logo simply depicted one exhibit polder—rain, meadow, dry garden. Overall, the three rectangles also related to the tall, narrow walls within our exhibit.
2017 PHS Philadelphia Flower Show Exhibit

NIEUWPOLDERS

REGENERATING THE DUTCH CUSTOM OF LAND RECOVERY

The 2017 PHS Philadelphia Flower Show, “Holland: Flowering the World,” occurred between 11 and 19 March 2017. Following is the text that was written to convey our exhibit theme.

DESIGN INTENT

Overall Design Concept
We draw upon the strength and spirit of Dutch land reclamation to cultivate common wastelands and expand, revitalize, or re-create natural spaces in our region.

Horticultural Concept
We selected plants that will enliven, diversify, and thrive in wet, vertical, dry, or homogenous environments. A controlled environment houses exotic ornamental plants.

Expected Impact on Visitors
Visitors will learn that widespread land recovery can occur, and will be compelled to conserve resources and bolster ecosystems by cultivating more ground.

View 3. Exhibit entrance: Looking up the ramp and toward the storage shed wall, with the check dams at right.

AWARDS

PHS Gold Medal

The Bulkley Medal of the Garden Club of America
Awarded in the fields of horticulture, botany, or conservation.
The exhibit must be one of exceptional educational merit that increases the knowledge and awareness of the viewing public.

PHS Sustainability Award
Educational major exhibitor demonstrating the best use of sustainable gardening practices to the public.
EXHIBIT PHS SIGN TEXT
Sedge, rush, and pickerelweed greet wispy willows in perched pools. Nearby, saplings stand stiff in the sun, stretching amid warmed walls and into a fruitful future. Astride a vanishing pool, vines cling and climb from the shade of soaring sails. Spot the trickles slinking down chain links, watering herbs and wild pioneers, and widening concrete cracks. In the distance, a glass house sheltering exotics glimmers. Ferns and flowers flourish; the lawn is forgotten. Don’t wait! Cultivate the future!

INTRODUCTION TO SHOW VISITORS
Land Reclamation in The Netherlands
Spice and fabric, metal and herb—shipped across the High Seas in the 17th century—gilded the Dutch Golden Age. Crops and dairy cattle fed the Dutch at home ports. Peat powered sawmills while the wind sucked the sea up dikes and into channels. O’er the world, the Dutch transformed “wastelands” amid cries of reclamation! Cultivate!

Nowadays, the low-lying lands the Dutch call “polders” keep dropping behind dikes, and melting glaciers will make the High Seas of Olde even higher. Dikes, dams, and sea walls may not protect polders from the sea of uncertainty, so the Dutch are letting Nature recover some land. We should too!
The Dutch spirit of cultivating wastelands stirs within us; our exhibit demonstrates a novel approach to reclaiming land at home.

**Land Reclamation at Home**
Philadelphia has piers instead of polders, and residents have reclaimed land from the water by filling, not pumping. Water levels will probably rise in our region; more rain and snow may fall; temperatures could rise, overall, and heat waves might linger. The landscape will change. What wastelands await us? What should we cry out against? Here are four ways to protect resources and wildlife, and recover land in the future:

- Detain or infiltrate rain water in gardens
- Transform building walls into green walls
- Replace impervious paving with plant beds
- Convert lawns to meadows

View 1. From the exit ramp looking toward the exhibit interior. The reclaimed lawn is at left, and the reclaimed pavement, or dry garden, is at right.

View 2. Looking toward the reclaimed lawn, with the storage shed at left.
Dam the rivers! Long ago, after the Dutch drained peat bogs and built dams to protect farms from floods, the water table and the land, sunk. Settlements on high ground—the dams—grew into villages and cities like Amsterdam and Rotterdam.

Damn drains! Around here, rain runs off streets, lawns, and parking lots, and right into rivers. Waterways swell, speed up, scour banks, wash habitat away, and damage or destroy property.

Dam the rain! Keep rainwater from running into storm drains; let it soak into the ground instead. You’ll attract wildlife; help creeks, streams, and rivers run low and slow, and preserve property.
View 1. Three check dams descended in elevation beside the exhibit entrance ramp.

View 2. Reclaimed utility poles, pierced by stone-filled gabions, recalled wooden pilings along a riverfront.

View 3. Blue crushed glass, oyster and muscle shells embedded in customized concrete pavers symbolized the waterline along a riparian shore. Gabion wire atop a cavity filled with gravity and oyster shells connected gabions beside the path.
1. Section Through Upper Basin Looking Toward Storage Shed Wall

Author: K. Faddis

Not to Scale

2. Section Through Lower Basin Looking Toward Entrance Ramp

Author: K. Faddis

Not to Scale

NIEUWPOLDERS | 2017 PHS Philadelphia Flower Show Exhibit
View 3. Water from the middle basin trickled through the check dam to the lowest basin via copper pipes. We selected copper because of the orange hue and the prevalence of orange in Dutch culture. We constructed the VAWT, rain chain, and canal weir out of copper as well.

View 4. Water in the uppermost basin spilled over a weir and down corrugated metal to the middle basin. We intentionally concealed the weir from viewers on the entrance ramp to introduce mystery and encourage visitors to inspect the exhibit exterior.
Between the 17th and 20th centuries, Dutch castle- and country-folk planted Mediterranean fruit trees beside south-facing walls, which absorbed sunlight and blocked northern winds. Glass window plates placed against the walls bore more fruit, and eventually evolved into greenhouses!

Today, the building walls and fences in our urban spaces often stand bare. Vegetation, insects, and wildlife are absent. Such views won’t help restore our ability to focus when countless things demand our attention.

Hit the wall! Plant columnar trees and vines. You’ll help make cities cool, and beckon crawling and winged creatures. Staring at walls will never be so fun, and invigorating!
**View 1.** Trellises inspired by windmill vanes screened visitors’ views into the canal when entering the exhibit. At the exhibit exterior, a greenhouse housed exotic plants.

**View 2.** Concrete pavers aligned with a rain chain and bisected an illuminated canal underfoot.

**View 3.** Rain slinked down bicycle chain links and seeped into gravel.

**View 4.** Bicycle cogs of different diameters and elevations dispersed water and subtly acknowledged the widespread use of bicycles in The Netherlands.
Plans of Illuminated Canal Landing Insert

Author: M. VanWhy
View 2. A canal bisected the groenmurrpolder. The illuminated acrylic canal became a water canal at the edge of the level landing.

View 3. A copper weir pierced a solid, 6’-0” high wall and terminated the canal at the exhibit exterior.
DROOGPOLDER
REMOVE & RECYCLE PAVEMENT
INSTALL PLANTS & WELCOME PIONEERS

Polders are all over The Netherlands. From high above, land that the Dutch have reclaimed from the sea or bogs appear as slender rectangles.

Ahoy! Every day, we steer our crafts across vast black bodies of asphalt—enough to cover Pennsylvania, New Jersey, and Delaware combined! In these empty seas, air temperatures rise, wildlife and plants can’t survive, and polluted rain runs into drains and waterways.

Reclaim the sea of pavement! Tear it up! Crush asphalt and use it as gravel. Build walls with large concrete slabs, or fill gabions with smaller pieces. Introduce plant pioneers and watch the insects and wildlife sail in.
View 1. Sawcut, dry-laid concrete walls served as the exhibit edge and rectified the 75- and 90-degree orientations present elsewhere in the exhibit.

View 3. Concrete pavers in the pathway visually connected walls and gabions throughout the exhibit. We placed plants, like *Rhus* spp., in front of built structures to accentuate the character of each, and soften rigid, built forms.
Plan of Exit Ramp
Author: E. Eisenhard

Section Through Ramp Pavers
Author: E. Eisenhard

Section Through Ramp BodPavers
Author: E. Eisenhard
View 5. To lead visitors out of the exhibit, we popped three wheelies on a painted tire down the exit ramp. We incorporated only full or half asphaltic hexagonal pavers to minimize cuts. A triangular concrete paver rectified the angular differences in pavers at the end of the exit ramp. Photograph by Kate Benisek-Axelson, Temple University.
Dingy linens? The Dutch have dealt with it too! Before Clorox, the sun dried and bleached sheets on treeless, fenced lawns throughout The Netherlands.

Nowadays, we chemically treat lawns with fossil-fuel-based fertilizers, pesticides, and herbicides. The mowers, blowers, and trimmers that keep lawn pristine guzzle gasoline, pollute the air, help change the climate, and break much needed silence.

We need lawns—for play and leisure—but cut the chemotherapy, mow less, and use a rake. Better yet, convert as much lawn as possible to meadow. You’ll increase plant, animal and insect species diversity, and sleep more peacefully between your sheets.
**View 1.** Wet meadow plants became increasingly taller as the groundplane swept up so that we could conceal as much of the storage shed as possible.

**View 3.** We placed the harp on the centerline of the walls, canal, and pathway to ensure that visitors would focus on it after exiting the groenmuurpolder, or green wall garden.
Elevation of Sail Shades Facing East Toward Greenhouse

Author: R. Gladfelter

Not to Scale
View 2. Inspired by 17th century Dutch maritime dominance, we stretched two shade cloths across the exhibit interior to accentuate the sense of enclosure created by the walls, and to block out the convention center ceiling.

View 4. A vertical axis wind turbine (VAWT) acknowledge the Dutch tendency to harness wind and human power. We reclaimed bicycle rims, copper gutters, and mirrors to make the turbine, and powered it with a corded hand drill wired to a dimmer switch.
PROJECT CREDITS

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

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